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# HAWAII MEDICAL JOURNAL

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## CONTENTS

**EDITORIALS** 3
**The Second Opinion**
J.I. Frederick Reppun MD
**Mandatory Professional Membership**
J.I. Frederick Reppun MD
**CONTINUING MEDICAL EDUCATION** 4
**ASPHYXIOPHILIA AND AUTOEROTIC DEATH** 11
Milton Diamond PhD
Sune M. Innala fil. kand.
Kurt E. Ernulf fil. kand.
**BREAST CANCER AND PREGNANCY** 18
Carol L. Titcomb
**MEDICAL TIPS AND TRICKS** 25
H. Lorrin Lau MD
**READERS EXPRESS THEIR VIEWS** 26
Russell T. Stodd MD

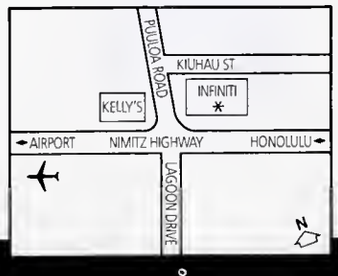
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# The second opinion

Imposed upon us by the social scientists in government and in the "health-care industry" is the requirement for a "second opinion"; this has pervaded the thinking of the general public to the point that we have a problem.

Why only a "second" opinion? Why not a third, a fourth — ad infinitum — to the point of building a bell curve? We will then have an average opinion, a mean and a median. Cost-controllers would be in seventh heaven.

Congress has a way of passing legislation without a thought to the consequences in terms of the increase in time, energy and dollars expended, and particularly the frustrations attendant upon fulfilling the requirements of the new regulations. The mandate for a second opinion is a prime example.

For us practicing physicians, there is another consideration: It involves medical ethics.

A second opinion is at best, a consultation. When the patient wants one, the attending recommends a consultant who he respects for the latter's expertise. If the patient accepts the recommendation, or suggests a consultant on his own that is acceptable to the attending, the patient is referred, preferably in writing. The consultant must be informed clearly by the referring physician as to whether it is for the consultant's opinion only and referral back, or whether the consultant is to proceed with the care of the specific problem, or to take over care of the patient from then on. There are standard forms that do this, provided they are used and filled out carefully.

If the patient goes out on his own to seek a second opinion, unbeknownst to the primary physician, the patient has chosen a rough road ahead. This second physician may well assume that he is being asked to give care *per primum*. If the patient accepts the proferred services, there is nothing to stop that physician from proceeding. The patient is lucky if he is well served.

However, if physician number two discovers that there is a number one, medical ethics suggest that, unless the patient forbids it, number two inform number one, as a courtesy, of what has transpired. Number one, in turn, with equal professional courtesy, will accept the change and give number two all pertinent medical background on the case. The patient's road has been smoothed over, but the underlying bumps may still be to his detriment.

The same situation may exist when third parties intervene and demand second opinions for their "client"; the patient is not well served when the number two physician is an impersonal one and out of touch with number one.

The same situation may also occur if, even on referral by number one for an opinion only and referral back, the patient elects to choose number two to proceed with the needed care. The patient has the right to choose; number two should extend the courtesy, and also has the right without the patient's consent, to communicate with number one as above. It's the patient's choice. Physician number one is absolved of all complicity in the outcome.

It becomes obvious, therefore, that medical ethics is a way to assure intercommunication among physicians in order to assure that the patient's welfare is the primary consideration. Although medical ethics is not designed to govern patient behavior in the doctor-patient relationship, some patients do worry about whether they are breaching some rule or code of conduct. It behooves us physicians to forestall embarrassing situations that are detrimental to the patient's best interests, by explaining and by smoothing the path ahead.

We cannot change the third party, cost-control requirements, but we should be able to steer a course that preserves medical ethics when it comes to the matter of "second opinions."

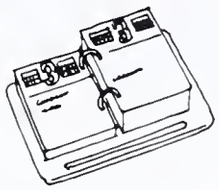
J.I. Frederick Reppun, MD
Editor

# Mandatory professional membership

A former president of the Hawaii Medical Association recently called our attention to what the lawyers of Hawaii were discussing: Mandatory membership in the Hawaii State Bar Association. He had obviously been reading the series in the *Honolulu Advertiser* by its staff writer Thomas Kaser on the need for reforms proposed by Chief Justice Frank Padgett of the State's Supreme Court.

A laundry list of such reforms reads as if it pertains to the medical profession: (1) The matter of specialty certification (and false advertising), (2) mandatory malpractice insurance (still not mandatory for medical licensure but required by all hospitals for the privilege of admitting and treating patients), (3) CME (long a de facto principle in medicine and not too long ago made mandatory for licensure by the State Legislature), (4) programs to help the professionals with their personal problems (the HMA has long had that and has extended it to non-members) and (5) stengthening the Client's Security

*(Continued on page 25)*►



# Continuing Medical Education

The Hawaii Medical Association does not review or evaluate the programs listed in the Hawaii Medical Journal Continuing Medical Education column and assumes no responsibility for educational value, scientific content, changes in agenda or cancellations.

## CALENDAR OF ACCREDITED EVENTS—CATEGORY 1

Accredited Programs of CME allow one unit of AMA credit for each hour of instruction excluding all "breaks." Some programs also are accredited for AAFP prescribed credit.

### LOCAL ACCREDITED PROGRAMS ONGOING

For a complete list of ongoing programs, please refer to the September 1989 edition of the HAWAII MEDICAL JOURNAL. Further information is available through the individual institutions or through the HMA's CME Department.

### SPECIAL EVENTS

All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the HAWAII MEDICAL JOURNAL.

**JANUARY**

1/20-1/27

**Update: Controversies in Emergency & Primary Care.** Contact: Edith S. Bookstein, American Institute of Postgraduate Education, P.O. Box 2586, La Jolla, CA 92038, 619-454-3212. Location: Kona Surf Resort, Big Island.

1/21-1/25

**Family Practice: Caring and Curing.** Co-sponsored by Hawaii Medical Association. Contact: David Elpern, MD, 3420-B Kuhio Hwy., Lihue, HI 96766; 808-245-1173. Location: Poipu Beach, Kauai.

1/26-1/28

**Practical Aspects of Pain Management.** Co-sponsored by the Hawaii Medical Association. Contact: John B. Dillon, MD, Academy for Continuing Education of Kauai, P.O. Box 759, Koloa, HI 96756; 808-742-6750. Location: Sheraton Kauai Hotel, Poipu, Kauai.

1/23-1/27 & 1/28-2/01

**Focused Seminar for Physicians, Administrators & Board Members.** Contact: Estes Park Inst., Box 400, Englewood, CO 80151; 800-223-4430. Location: Kauai/Maui.

1/22-1/26

**8th Annual Hawaii Conference on Gastrointestinal and Hepatic Diseases.** The Honolulu Medical Group Research & Education Foundation and co-sponsored by the Hawaii Medical Association. Contact: Gary Glober, MD, 1380 Lusitana St., Suite 701, Honolulu, HI 96813, 808-536-1021. Location: Hyatt Waikoloa, Big Island.

1/26-1/28

**Comforter Where Is Thy Comforting?** Pain Management for the Generalist. Contact: David Elpern, MD, P.O. Box 457, Kalaheo, Hawaii 96741. Location: Kauai.


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1/30-2/03
**16th Annual Mid-Pacific Radiological Conference.** Contact: LARS, P.O. Box 91215, Los Angeles 90009-1215; 213-827-9078. Location: Maui Marriott Hotel.

**FEBRUARY**
2/12-2/16
**Neurology in Clinical Practice.** Contact: Mayo Clinic/Mayo Foundation, 200 First St., SW, Rochester, MN 55905; Dr. Mitchell 507-284-2509. Location: Kauai.

2/18-2/23
**9th Annual Masters Radiology Conference.** Contact: Mary Charles & Assoc., 2334 S. King St., Ste. 205, Honolulu, HI 96726, 808-942-9655; FAX 808-949-1273. Location: Hyatt Regency Waikoloa, Big Island.

2/19-2/21
**1990 Mid-Winter Seminar.** Contact: Malcolm Ing, MD, 1319 Punahou Street, Suite 1110, Honolulu, HI 96826; 955-5951. Location: Hyatt Regency, Waikiki.

2/19-2/23
**Hawaii 1990: 5th Annual Advances in Primary Care Medicine.** Pacific Institute of Continuing Medical Education and co-sponsored by the Hawaii Medical Association. Contact: Valerie Murray, P.O. Box 1059, Koloa, HI 96756, 808-742-7471. Location: Stouffer Waiohai, Kauai.

2/19-2/23
**Current Problems in Cardiology Diseases.** William L. Nietz, Division of Education, Mayo Clinic, Rochester, MN 55905, 507-284-2085. Location: Maui Marriott.

2/22-2/23
**Cardiology Conference in the 1990s - Concepts and Controversies.** Contact: Barbara Behrans, The Queen's Heart Institute, 1301 Punchbowl, Honolulu, HI 96813, 547-4466. Location: Ala Moana Hotel, Honolulu.

2/24-3/03
**Wound Management.** Contact: Edith S. Bookstein, American Institute of Postgraduate Education, P.O. Box 2586, La Jolla, CA 92038; 619-454-3212. Location: Royal Lahaina Resort, Maui.

**MARCH**
3/15-3/09
**Geriatric Medicine Board Review Intensive Course & Conference.** Contact: University of Hawaii, John A. Burns School of Medicine, Division of Geriatric Medicine, 347 N. Kuakini St., HPM 9th Floor, Honolulu, HI 96817, 808-523-8461. Location: Halekulani Hotel, Honolulu.

**APRIL**
4/07-4/14
**Cardiopulmonary Emergencies.** Contact: Edith S. Bookstein, American Institute of Postgraduate Education, P.O. Box 2586, La Jolla, CA 92038; 619-454-3212. Location: Poipu Beach Hotel & Waiohai Resort, Kauai.

**JUNE**
6/06-6/10
**7th Annual Meeting of the Southern Orthopedic Association.** Location: Hyatt Regency Hotel, Maui.

**JULY**
7/24-7/26
**The Second Annual Queen's Cancer Institute Symposium: Gastrointestinal Malignancies '90.** Co-sponsored by the Hawaii Medical Association. Contact: Karen Taoka, Queen's Cancer Institute, 1301 Punchbowl St., Honolulu, HI 96813; 808-547-4660. Location: Hilton Hawaiian Village, Honolulu.


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| RIDE | 1 | 5 | 5 | 10 | 5 |
| HANDLING | 9 | 7 | 6 | 8 | 6 |
| NVH (Quietness) | 1 | 6 | 6 | 14 | 6 |
| EXTERIOR | 4 | 9 | 4 | 7 | 4 |
| INTERIOR | 3 | 7 | 5 | 7 | 5 |
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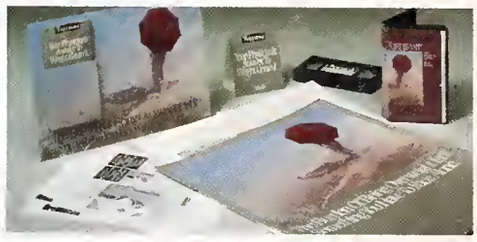
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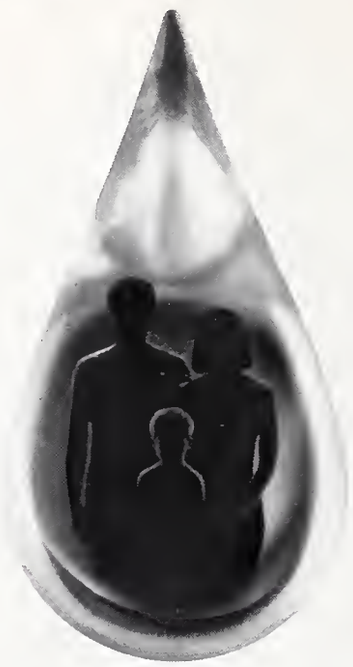
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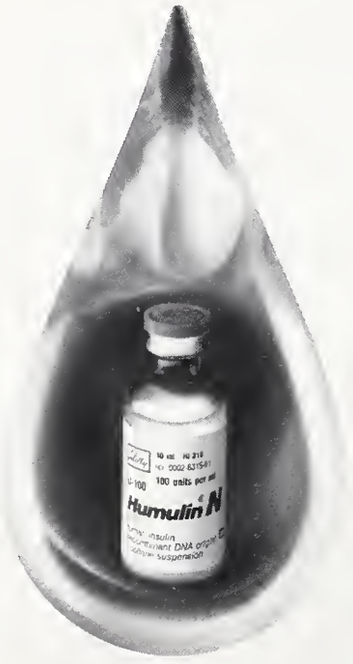
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# Asphyxiophilia and autoerotic death

Milton Diamond, PhD*
Sune M. Innala, fil. kand.**
Kurt E. Ernulf, fil. kand.**

*Eight cases of autoerotic asphyxia deaths on Oahu are reviewed. Distinguishing features typically separate these deaths from intentional suicides or homicides. The sexual nature of these incidents is a salient feature of the death. The etiology of the practice is unknown but worth investigation.*

## Introduction

Several recent forensic events in Hawaii and national media[1,2] have brought increased general and professional awareness to the practice of accidental death accompanying solitary sexual arousal and masturbation. Such practices have been termed sexual or autoerotic asphyxia, hypoxophilia, or asphyxiophilia. Asphyxiophilia is the desire for a state of oxygen deficiency in order to elicit or enhance sexual excitement and orgasm.[3] In a metropolitan community with a relatively small but diverse ethnic population (around 1 million) and one which often views itself, and is viewed by others, as away from the major concerns and problems of larger Mainland communities, it seems quite appropriate to review the occurrence of autoerotic death in Honolulu and to see how it compares with cases elsewhere.

A most recent case in Honolulu illustrates the practice of asphyxiophilia and some of the medicolegal as well as sexological questions surrounding it. The case involved the finding of an adult who had hanged himself from a bamboo "tree," located in an accessible but relatively secluded area of an Oahu forest. The body was determined to have several classic signs of asphyxiophilia.[4-8] One such sign was an elaborate mechanism for creating the hypoxia. In this case, the decedent had nestled one bamboo pole in a notch of a live 3-inch diameter bamboo tree. This notch was about 6 feet above the ground. At the junction he had attached a one-fourth-inch thick rope and a nylon stocking forming a sliding loop into which he had placed his neck. Two snap hooks were located in the rope sling, one on each side of the neck, where theoretically they could easily be opened as quick-release safety devices. Chlorophyll stains on the stocking, as well as wear and tear marks on the support structure, indicated repeated use.

Medical authorities were faced, as they often are in such cases, with determining if this was an instance of homicide, suicide or accidental death. To help in resolving the problem both a physical autopsy and a psychological autopsy were conducted. This involved an investigation and an interview with all those individuals who might have had knowledge of the deceased and his behavior.

The physical findings were typical for hanging; the medical examiner's report showed that the decedent had died of asphyxia several days prior to discovery. The police investigation and psychological study revealed that the decedent was a graduate of a religious high school on the Mainland and for many years had been a successful local businessman without known drug or alcohol abuse. He was described by neighbors and friends as stable and "a nice guy." For at least a year and a half he had practiced mutual sexual asphyxiation together with his wife. These incidents were always at his bidding but his partner did not seem to be an unwilling participant. They included use of the bamboo devices mentioned above, as well as manual strangulation at home.

Audiotapes, manuscripts of short stories, erotic magazines, as well as personal writings found in the decedent's house, revealed fantasies or at least interests that included consensual sadomasochism, bondage, rape of women and homosexual behavior. He and his wife had occasionally engaged in light sadomasochism that included the use of handcuffs. The decedent had said to his wife, on several occasions, that asphyxiation gave him a "peaceful, high feeling." There was, however, no evidence, knowledge or report of past homosexual practice, involuntary or abusive sex or rape. Indeed, the decedent had no criminal record for assault or other crime and had often voiced homophobic sentiments.

We have summarized all known cases of asphyxiophilia in Honolulu during the period 1977 to 1988. Consultation with the Medical Examiner's office led us to believe that diagnosis and identification of the practice of asphyxiophilia might not have been accurate prior to 1977.

*(Continued)*►

* University of Hawaii-Manoa
Department of Anatomy & Reproductive Biology
John A. Burns School of Medicine
Honolulu, Hawaii 96822

**Department of Psychology
University of Goteborg
Goteborg, Sweden

Reprint requests to Dr. Milton Diamond
1951 East West Rd., Honolulu, HI 96822

## Asphyxiophilia in Honolulu County (1977-1988)
## Cases (N = 8)

**Table 1: Demographic Characteristics**

1. Age — Range = 15-59; Median = 36.5; Mean = 36.9
2. Sex
   a. male ..... 8
   b. female ..... 0
3. Marital status
   a. single ..... 1
   b. married ..... 3
   c. separated, widowed or divorced ..... 2
   d. not mentioned ..... 2
4. Living arrangement
   a. living alone ..... 3
   b. living with sex partner ..... 4
   c. living with relatives ..... 1
   d. living with roommate ..... 0
5. Ethnicity
   a. Caucasian ..... 5
   b. Hawaiian or part-Hawaiian ..... 0
   c. Japanese ..... 1
   d. Chinese ..... 1
   e. Black ..... 0
   f. mixed or other ..... 1

**Table 2: Physical Characteristics at Scene**

1. Asphyxiation mechanism (maybe more than one)
   a. pressure to the neck, hanging ..... 6
   b. airway obstruction (e.g., pillow) ..... 1
   c. oxygen deprivation (e.g., plastic bag) .. 1
   d. chest compression ..... 0
2. Asphyxiation devices (maybe more than one)
   a. noose to adjust airflow, hanging ..... 7
   b. plastic bag over the head ..... 1
   c. blankets, pillow, etc. ..... 1
   d. elaborate devices suspended from above ..... 6
3. Inferred position of body during asphyxiation act
   a. standing or kneeling ..... 6
   b. sitting ..... 1
   c. lying ..... 1
4. Safety devices apparent (maybe more than one)
   a. device to loosen the ligature ..... 2
   b. knife ..... 0
   c. adjusting body position loosens ligature ..... 3
   d. automatic self-rescue mechanism ..... 0
   e. none, not apparent, not recorded ..... 4
5. Padding to avoid rope burns
   a. apparent ..... 3
   b. not apparent ..... 1
   c. not recorded ..... 4
6. Location of body when found
   a. private, hidden ..... 2
   b. private, not hidden ..... 5
   c. public, hidden ..... 1
   d. public, not hidden ..... 0
7. Evidence of repetitive behavior
   a. physical evidence (e.g., rope marks) ... 1
   b. verbal reports ..... 3
   c. signs (e.g., rope burns, blood-shot eyes) ..... 2
   d. not recorded ..... 2

**Method and results**

In order to investigate the occurrence of aphyxiophilic deaths in Honolulu, we contacted the Honolulu Examiner's Office. The jurisdiction of this office comprises the City and County of Honolulu. Honolulu County includes the island of Oahu and accounts for approximately 80% of the State of Hawaii population. The Medical Examiner's records revealed 8 cases of asphyxiophilia from January 1977 through December 1988. We analyzed these case reports and compiled the results. Data analyses addressed several major issues and are presented in tabular form (Tables 1-4).

All cases were male. The mean age at death was 37 years, the oldest individual being 59. Only 1 teenager, age 15, was reported.

Safety devices, both simple and elaborate, were often present to prevent death. In 2 of our cases, there was a device that could be used to loosen the ligature, and in 3 cases, simply standing or adjusting the body position would loosen the ligature. As death probably came unexpectedly and rapidly, these practitioners of asphyxiophilia were unable to avail themselves of the intended safety guards.

*(Continued)*►

# MRI CASE OF THE MONTH

## SUBEPENDYMAL GIANT CELL TUMOR

**Clinical Information:** The patient is a 25-year-old female with known tuberous sclerosis and hydrocephalus.

**Figure A**

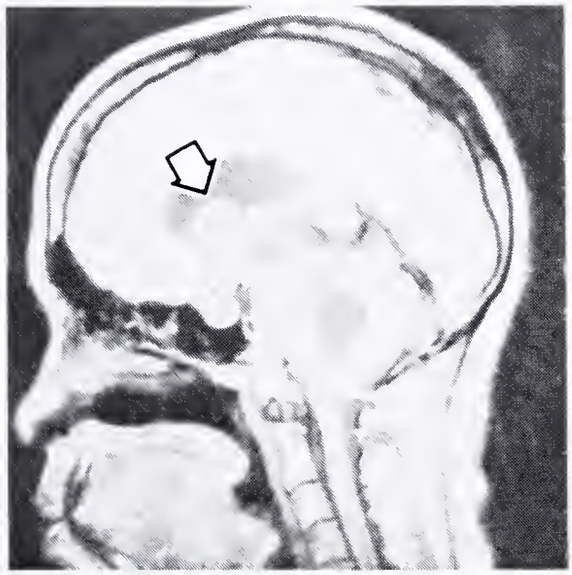
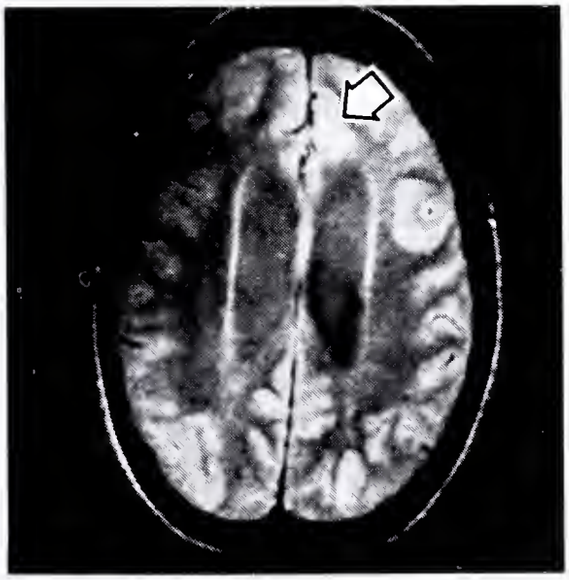


**Figure B**



**Figure C**



### Radiologic Diagnosis:

**Figure A:** The sagittal T1-weighted sequence shows a 1-½cm tumor situated at the right foramen of Monro. Note the enlargement of the IVth ventricle as well.

**Figure B:** Figure B also demonstrates this large tumor at the right foramen of Monro and shows enlarged lateral ventricles.

**Figure C:** Demonstrates a left frontal cortical tumor which is extremely difficult to identify on CT.

**Comment:** MRI is exquisitely sensitive in detecting intraventricular and intraparenchymal tumors as well as cortical tumors. The enlargement of the IVth ventricle suggests the patient has a communicating type of hydrocephalus. These findings are consistent with tuberous sclerosis.


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Typically, the decedents were found in places where it would be unlikely that they would be interrupted during the act, such as in private rooms or apartments with the doors often locked from the inside. Seven of our cases were found in such private locations. The 8th case, described in the introduction, was found in a public but hidden location.

Evidence in 6 of the 8 cases indicated the behavior was repeated time after time. No suicide letters or other correspondence were found in these cases.

Innumerable elaborate devices to effect the hanging, constructed of rods and ropes, were apparent in 6 of our cases. Devices in the neck noose had often been attached to adjust the airflow. To these, some subjects also tied their hands or feet. In only one of our cases was binding of limbs, as separate from attachment to the noose or hanging device, a finding. In other cases, the method used to achieve hypoxia was simple. One individual died with a plastic bag containing freon gas encasing his head. Another smothered himself with a pillow.

Five of our 8 cases were found nude; the remaining 3 were "cross-dressed." One of the nudes wore female pumps. Sexual artifacts, such as dildoes or vibrators, and sexual-explicit materials were often found near the bodies, suggesting these objects were used to stimulate and enhance the sexual activity, the presence or absence of erection was not recorded in any of the cases; seminal emission was noted in only 2 cases.

Although all cases were investigated for the possibility of homicide or suicide, all 8 cases were determined to be accidental. There was no evidence or suspicion of foul play in any of our cases. Investigation was made difficult in 2 cases, however, in that relatives or friends had tried to hide the evidence. This was so in the case we described in the introduction.

## Discussion

The classic signs of asphyxiophilia were apparent in our model case, such as evidence of repetitive behavior, the presence of intended (even if ineffectual) safety devices, and the padding to avoid pain, rope burns or actual injury. It is also typical that the decedent was described as happy and successful, without signs of alcohol or drug abuse and without any reason to suspect suicide or homicide. One somewhat unusual finding, however, was that in this particular case it was done in an open, albeit secluded, locale (see also references 8 and 9). Although his wife had refused him sex earlier that evening, prolonged sexual deprivation is not necessarily a motive. Among our cases were incidents where prior to the death, the individuals were known to have had marital coitus daily and extramarital sex at least several times a week. Several also were known to masturbate and to pick up tourists or prostitutes for sexual liaisons.

The 8 cases reported in this study occurred during an 11-year period, 1977 through 1988. Using 1980 census data, this corresponds to a frequency of 0.7 deaths per million inhabitants per year in Honolulu County. Using the same correction for under-reporting as in similar studies,[3,7] we conservatively estimate the mortality in Honolulu County due to asphyxiophilia as 1-2 deaths per million inhabitants per year (we do not have comparable data for other counties in the State of Hawaii). A rough estimate of the United States mortality rate from autoerotic death, for the same period of time, is 250-1,000 deaths per year,[7,10,11] which corresponds to a frequency of 1-4 deaths per million inhabitants per year. In comparison, the autoerotic mortality rate in Scandinavia has recently been estimated as 1-2 deaths per million inhabitants per year.[3] Of course, these figures in no way indicate how widespread is the practice of asphyxiophilia. These estimates represent those who die while doing it.

Demographically, the Honolulu cases are somewhat different from those found elsewhere. Generally, asphyxiophilia is most common among young males aged 12-25 years, with a preponderance in the 12-17 subgroup.[8,9,12,13] However, it has also been reported among middle-aged and older men. Here, however, the cases are all male, but substantially older than that reported in other general samples. The reasons for the age difference seen here are not apparent. Female cases, of which there were none reported in our study, are relatively rare in general. They have been estimated as 4% of all cases reported, and only a few have been described in any detail.[14-16]

Evidence that the behavior was repetitive was apparent in 6 of our 8 cases. Such repetitive behavior is often indicated by letters present at the scene that reveal that the danger of death is known to the practitioner, thus relieving family or authorities of the need to look for a motive[11]. No letters or notes were found among our cases. This suggests the individuals felt there was insufficient danger to themselves or reason to warn others of the practice.

The prevalence of nudity and cross-dressing in our study is not an uncommon finding in asphyxiophilia victims and it corresponds to findings elsewhere.[6-8,12] The literature frequently describes bodies found with unusual clothing on the victim, such as women's underwear, women's attire, rubber or plastic underclothes and mackintoshes.[4-8] The reasons for these fetishistic features are not understood. Nudity is often associated with eroticism but cross-dressing is more difficult to interpret. Most normal individuals are not aroused by their own or other's cross-dressing. It may be an indication of transvestism, fetishism, masochism, or a variety of other phenomena. Therefore, caution is necessary when drawing inferences about this phenomenon. Sufficient evidence exists, however, that cross-dressing *per se* need not characteristic of either homosexuality or bisexuality.[17-19]

In many reports in the literature, feet, hands and other parts of the body have often been tied.[7-9] This was apparent in only one of our local cases. Similar to findings in our cases, sexual artifacts and sexual-explicit materials were often found near the bodies, suggesting the sexual nature of the experience.

Practitioners of asphyxiophilia use different devices to apply partial strangulation. Besides applying manual pressure they may use ropes, chains or leather belts. In most cases, compression of the neck by some type of noose is used to obtain the asphyxiation effect.[5,7] In other cases, the effect has been obtained by covering the face with a plastic bag, blankets or a mask. Airway obstruc-

## Asphyxiophilia in Honolulu County (1977-1988)
## Cases (N = 8)

**Table 3: Sexual Characteristics**

1. Erection when found
   a. apparent ..... 0
   b. not apparent ..... 0
   c. not recorded ..... 8
2. Signs of semen
   a. found ..... 1
   b. not found ..... 1
   c. not recorded ..... 6
3. Sexual paraphernalia apparent at scene
   a. dildo ..... 1
   b. vibrator ..... 1
   c. mirror ..... 2
   d. other ..... 1
   e. not apparent ..... 1
   f. not recorded ..... 4
4. Sexual-explicit material
   a. apparent at scene ..... 2
   b. not apparent at scene ..... 2
   c. found elsewhere ..... 3
   d. not recorded ..... 2
5. Body attire when found
   a. nude ..... 5
   b. partially nude ..... 0
   c. dressed ..... 1
   d. unusual attire (e.g., women's attire, leather) ..... 4
6. Other sexual characteristics
   a. bound (other than ligature) ..... 1
   b. cross dressed ..... 4
   c. homosexual or bisexual interest ..... 4
   d. other (e.g., sex offender) ..... 1
   e. not apparent ..... 1
   f. S & M or B & D evidence (other than for asphyxia) ..... 1

**Table 4: Other Investigative Findings**

1. Drugs
   a. alcohol (percentage > .1%) ..... 2
   b. "poppers" (amyl nitrite) ..... 0
   c. other drugs (e.g., freon) ..... 1
   d. not apparent ..... 2
   e. not recorded ..... 4
2. Previous depression
   a. yes ..... 1
   b. evidence of depression or death wish ..... 5
   c. not recorded ..... 2
3. Letters or notes left behind
   a. saying death was accidental ..... 1
   b. saying death was intentional ..... 0
   c. not apparent ..... 1
   d. not recorded ..... 6
4. Other hidden signs of autoerotic behavior
   a. yes ..... 2
   b. no indications ..... 6
   c. not recorded ..... 0
5. Suspicion or evidence of foul play
   a. yes ..... 0
   b. no ..... 8

tion, chest compression, self-smothering are other methods occasionally used.[6,20] Partial asphyxia is said to induce a euphoric effect on the practitioner. How this is learned or developed is not understood. The timing of the effect in relation to orgasm has been reported to vary widely among individuals.[7]

The dangers associated with asphyxiophilia are many. Obviously faulty construction of the device can lead to injury. Rope burns, dermal abrasions and scarring of the neck are possible, and the intended safety devices may not work. Most critical is the physiological reflex that might be brought about with stimulation of the carotid sinus by a sudden compression or pressure surge. This can cause a rapid drop in blood pressure or bradycardia with sudden cardiac arrest, or unconsciousness within 10 seconds.[6,21]. It is probably safe to say that most individuals are not aware of such a possible reflex.

It is presently not known whether arterial occlusion, venous occlusion, asphyxia *per se,* or other factors play the major role in these deaths[22]. Individuals with underlying cardiac disease seem particularly vulnerable to reflex carotid sinus stimulation and hypoxia.[23]

While extensive writings about autoerotic deaths are not rare (e.g. 5-8) and psychodynamic theories associated with the practice abound (e.g. 6 and 8), in reality little is known about why people start to asphyxiate themselves or how this practice becomes eroticized. In one case[24] a young man reported that at the age of 14 he saw a cowboy movie that portrayed a hanging. He was sexually aroused while watching the hanging, and later on hanged

*(Continued)*►

himself from a tree. Although he lost consciousness and almost died in the first attempt, he found it sexually arousing and periodically continued to hang himself purposefully. One female informant revealed to the senior author that, although she had never practiced asphyxiophilia, she had from early teen age fantasized about being encased in a rubber wet-suit garment that had openings only for her perineum, breasts and mouth. Her fantasy was that when she was being sexually penetrated in all her orifices, she would be without breath, since her mouth would be filled with a penis. And this bondage and coital situation was erotic to her. The closest this fantasy got to reality, however, was only in her thoughts during solitary masturbation. Although highly sophisticated, she had no idea as to the origins of the fantasy or desires.

Eskimo children have been reported to seek unconsciousness as a delightful game.[25] One 19-year-old American who engaged in erotic hypoxia wrote about the pleasure he discovered at the age of 9 or 10 while applying manual pressure to his own neck in order to "pass out".[26] Children's sensations are not necessarily erotic and it is difficult to know to what extent the very young practice asphyxiation for sexual pleasure. It may well be that before the sexual potential is discovered, sensations are mainly different and exciting in general and afterward they shift to being erotic.

Asphyxiophilia has on a few occasions been depicted in theater performances and movies, such as *The Ruling Class* by Peter Barnes, *Waiting for Godot* by Samuel Beckett, and *In the Realm of the Senses* by Nagisa Oshima. The well-known Marquis de Sade wrote of it appealingly in his 1791 book *Justine*.[27] However, we think these depictions are too rare and esoteric to account for the widespread incidence of asphyxiophilia. In the past, the behavior appears to have been self-discovered[26]. Recent publicity might be changing this.

The danger itself might be a source of sexual excitement in some practitioners of asphyxiophilia. One frequently reported feature of those involved with asphyxiophilia seems to be an orientation toward masochism or violence and death associated with eroticism[28,29]. However, as accounts of eroticized danger in asphyxiophilia are lacking, it is unknown whether this is a common source of sexual excitement. We ourselves doubt this is so, since few data support this contention. Those involved in asphyxiophilia appear to be generally young, well adjusted and without apparent signs of psychopathology. It is probable that this is solitary play-acting where, as Resnik[6] succinctly puts it: "dying, rather than death, appears to be the endgame; this would seem to mitigate against the self-destructive and suicidal nature of the behavior." It should also be kept in mind that hanging *per se,* in non-erotic situations, such as in capital punishments, has been known to induce erection and ejaculation in the victim.

Characteristics such as the binding of body parts other than the neck, and use of or presence of sadomasochistic erotica, seem in keeping with the practice but are also difficult to interpret since most such individuals are not known to indulge in asphyxiophilia. At present, there are few reports by practitioners of asphyxiophilia about their own inner experiences or motives.[24,26,28,29] More first-person reports would assist in understanding the aberration. It is possible in at least some individuals, as in the case of our model that eroticism has a wide polymorphous base. He and others might have had a strong desire for novel and unique sexual stimulation. It is noteworthy, keeping this in mind, that only 2 of our 8 cases showed evidence of ejaculation. Of course, in the other cases, death might have intervened before orgasm could be expected to occur.

Pathologists and the lay authorities may occasionally misclassify the deaths as suicide or murder instead of accidental.[7,12] To our knowledge, only a few cases of homicide have ever been reported wherein the scene has been deliberately set to look like accidental asphyxiophilia.[13,28,30] In such instances, we hypothesize that the murderer knew of his own or the private sexual practices of the victim. Specific suspicion or evidence of foul play was not seen in any of our cases. Usually, for the forensic investigator, the problem is one of distinguishing between accidental death and suicide. The risk of misclassification is especially great if the facts are not particularly clear or if evidential material is lacking. This can occur, for instance, when relatives or friends try to hide the true cause or nature of the death by removing evidence.[9,11,13] This was so in our model case and one other.

Although it is often difficult to distinguish between accidental asphyxiophilia deaths and suicides, several items might be kept in mind. Victims of asphyxiophilia accidents are typically young, apparently well-adjusted men, lacking evidence of depression or a death wish. Why Hawaii is so different in regard to the age distribution of its victims is not understood but should be kept in mind by local authorities. Other indications of accidental death are the presence of safety devices and padding to avoid marks on the body. Nudity, cross dressing or unusual clothing are also common signs of accidental deaths. Furthermore, letters left behind often indicate if deaths have been accidental or intended. To assist in medicolegal determinations, it would be prudent for investigators to record specifically the presence or absence of suicide notes and other matters.

Medicolegal investigations are often stressful for relatives and friends of the decedents. However, if an asphyxiophilia death turns out to be accidental instead of intentional, physicians and others associated with the case can relieve much guilt among survivors by tactfully giving them this information. Physicians, police and others in authority who are aware of the practice, can assuage the family's grief by explaining that the death is from a known, even if rare, cause. Knowledgeable agencies, counseling and support groups can also help the bereaved.[2,18] Establishing it as an accidental cause of death can also be help in settling insurance claims.

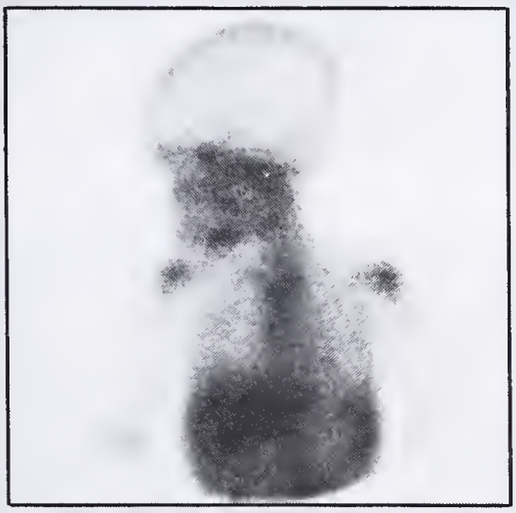
Medical practitioners are encouraged to probe the possibility of asphyxiophilia if suspicious neck abrasions, bloodshot eyes or other signs of strangulation are apparent. Warnings of danger are in order particularly about the carotid.

Medical examiners or authorized investigators are encouraged to record carefully those factors enumerated in Tables 1-4. It is hoped future study and interviews will

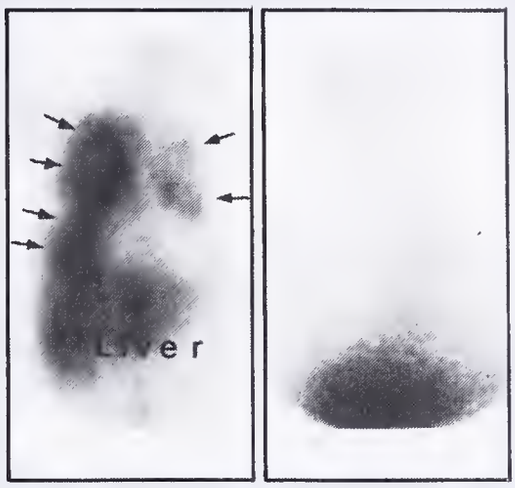
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# Nuclear Medicine Teaching File

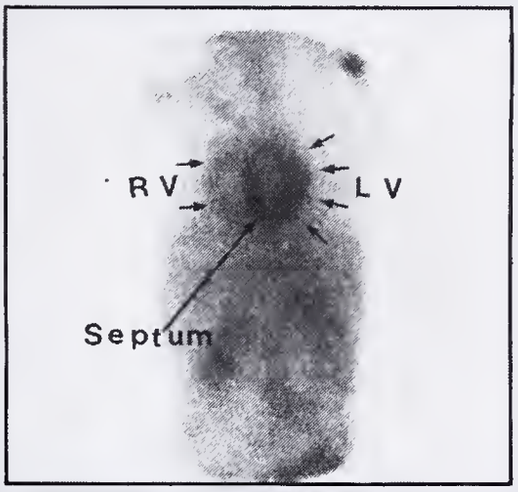
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# Breast Cancer and Pregnancy

Carol L. Titcomb*

*Cancer is the second leading cause of death in women of child-bearing age. Carcinoma of the breast, an estimated 135,000 new cases of which were diagnosed in the USA in 1988[5], is the most common cancer in American women. Malignant disease complicates 1 in 1,000 pregnancies, with breast cancer diagnosed in but 1 of 3,500[3]. Conversely, only 1% to 3% of breast cancers are associated with pregnancy and the period of lactation (the latter defined as the period of 1 year postpartum). In his review of world medical literature from 1850 to 1950, White found in a total of 45,881 women with breast cancer, only 1,296 cases (2.8%) occurring in pregnancy[10]. Indeed, the bulk of breast cancer is diagnosed in post-menopausal women. Of 31,594 cases reported to the Cancer Registry of Norway from 1955 to 1980, women aged 50 and older comprised 73%, whereas women under the age of 35, less than 2% of the total[7]. Breast cancer becomes significant, however, among the subgroup of women of childbearing age. In the same series of 31,592 women, 10% of those less than 35 years of age were pregnant at the time of diagnosis and an additional 15% had given birth within the year prior to diagnosis.*

The numbers in gestational breast cancer are small; thus, literature on the subject is sparse and often conflicting. Our treatise seeks to delineate the relationship between breast cancer and pregnancy. Specific issues to be addressed include the impact of pregnancy upon the natural history of breast cancer in affected women and the implications thereof with regard to coincident and subsequent pregnancies.

The topic of gestational breast cancer is likely to be of increasing interest to practitioners as greater numbers of women in their reproductive years look forward to improved survival following early and definitive treatment of breast cancer. Several factors are at play.

First, as delayed, first full-term pregnancy (FFTP) is a risk factor in breast cancer, a greater incidence of disease may be expected as more women delay childbirth until they are more mature. Natality statistics show a 60% increase of FFTP occurring in women over the age of 30 since 1975[3].

Second, studies of screening protocols that indicate that asymptomatic women do breast self-examination and have periodic mammographic exams show that detection of breast cancer takes place earlier in that cohort. In 80% of tumors so detected, axillary lymph nodes are found to be uninvolved at the time of surgery. By contrast, only 45% of those lumps discovered in the course of routine medical care are node-negative[2]. The result of earlier detection is that incidence of advanced disease declines and a more favorable prognosis at the time of diagnosis can be stated. Table 1 demonstrates this trend in Norway.

Third, advances in therapy have been translated into longer survival of affected women. The National Institutes of Health (NIH) noted a 24% rate of reduced mortality in more than 14,000 women participating in adjuvant chemotherapy trials [8].

Fourth and finally, since gestational breast cancer is uniformly premenopausal and predominantly estrogen-receptor negative[3], it is not surprising that there is no real proof of improved survival following bilateral oophorectomy. Castration, as a therapeutic adjunct, has been abandoned, with the result that women now emerge from treatment for breast cancer with fertility intact. At present, between 5% and 8% of such women subsequently become pregnant.

Studies have established that women with gestational breast cancer tend to present with more advanced disease compared to their non-pregnant, age-matched controls.

In their series of 63 pregnant women treated for primary breast cancer at the Mayo Clinic, King et al. found positive axillary nodes in 56%; this compared unfavorably with the 38% with nodal involvement in non-pregnant controls reported in an earlier study published by the same investigators[9]. In 2 other series, 15 patients reported by Max and Klamer[11] and 121 patients followed by Ribeiro et al.[14], nodal positivity was observed in 75% and 72% respectively. These results are in keeping with those of other investigators, who have found a 50%-75% incidence of axillary node involvement in gestational breast cancer. In a study of 35 patients treated at the Norwegian Radium Hospital from 1954 to 1980 for breast cancer diagnosed in pregnancy and during lactation, only 9 (26%) had localized disease without direct chestwall extension or axillary node metastases. During the same time period, roughly half of the age-matched, non-pregnant women treated at the Norwegian Radium Hospital presented with localized breast cancer[15].

The phenomenon of advanced disease in gestational

(Continued) ►

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**References:**

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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breast cancer may have related host factors, specifically the hormonal milieu of pregnancy. In 1948, Bittner demonstrated the stimulation of murine mammary cancer by estrogen[6]. It has since been suggested that elevated levels of estrogen, prolactin and growth hormone, in stimulating physiologic hyperplasia of human breast tissue, may promote tumor growth. Steroid hormones may contribute by suppressing cellular immunity [6,8].

The opposite point of view, that hyperestrinism in pregnancy may inhibit carcinogenesis was argued by Donnegan in 1977[5]. He reasoned that circulating levels of all 3 estrogens are elevated after the 8th week of gestation, with that of estriol disproportionately so. A weak estrogen, estriol may act as a competitive antagonist by displacing estradiol and estrone from common cytosolic receptors. This may account for the finding that the lower incidence of breast cancer in women who become pregnant before the age of 30 is abolished by a first trimester abortion[6].

Advanced disease at the time of diagnosis may be related to tumor factors. Some investigators have reported a preponderance of the more aggressive histological classes of carcinoma in gestational breast cancer. Deemarsky and Neishtadt observed a higher frequency of lobular carcinoma, with pre-tumorous changes in the surrounding breast tissue of their pregnant patients[1].

The single most important factor contributing to the disease being in gestational breast cancer is iatrogenic, i.e. delayed diagnosis. Less than 20% of women who have breast cancer in pregnancy are diagnosed and treated prior to delivery[13].

Delays ranging from 6 weeks[9] to 5 months[11] have been reported. In a series of women treated at the Norwegian Radium Hospital[15], a median delay of 2.5 months in pregnant patients, and of 6 months in lactating patients was observed.

Diagnosis of breast cancer is hampered by physiologic changes that take place in the pregnant or lactating breast. On physical examination, the malignant masses may be mistaken for lobular hyperplasia. On mammographic study, diffuse fluid density due to increased vascular proliferation and permeability, together with the loss of fatty tissue contrast, may mask focal abnormalities. Physicians may be reluctant to follow up on suspicious findings, because of the anticipated low yield.

In addition to the cornucopia of benign masses found in non-pregnant women, diagnoses peculiar to gestation, such as lobular hyperplasia, galactocele and lactation mastitis account for one-third of benign biopsies in the pregnant or lactating breast[13]. Physician procrastination may be attributed to the greater rate of complications likely to occur when a biopsy of the gestational breast is done. Hypervascularity imparts a greater likelihood of hemorrhage; the presence of milk in the ductules increases the risk of infection and fistula formation. The potential for fetal distress and tertogenesis attends the use of general anesthesia.

Even after the diagnosis of breast cancer is made, staging procedures in the gestational period pose a problem. Since circulating estrogens are elevated tenfold, the

*(Continued)* ►

determination of steroid hormone receptor status requires special exchange assays.

Radiologic studies are limited by the risk of submitting the developing foetus to ionizing radiation. This risk, as inferred from experiments with mice, is related to gestational age of the foetus at the time of exposure[13]. The conceptus (at 2 <2 weeks of age) is most vulnerable, with death being the usual outcome. A 20% incidence of severe malformations follows radiation exposure in the period of organogenesis (2-8 weeks). The principal effect of exposure in the foetal period from 8 weeks to term is growth retardation.

Foetal risk is also related to the field of exposure. Radiographic studies of the extremeties may be obtained without proscription; however, lumbosacral radiation should be deferred in all but severely symptomatic patients. With adequate shielding of the pelvis, conventional chest films or computed tomography of the liver and head are feasible.

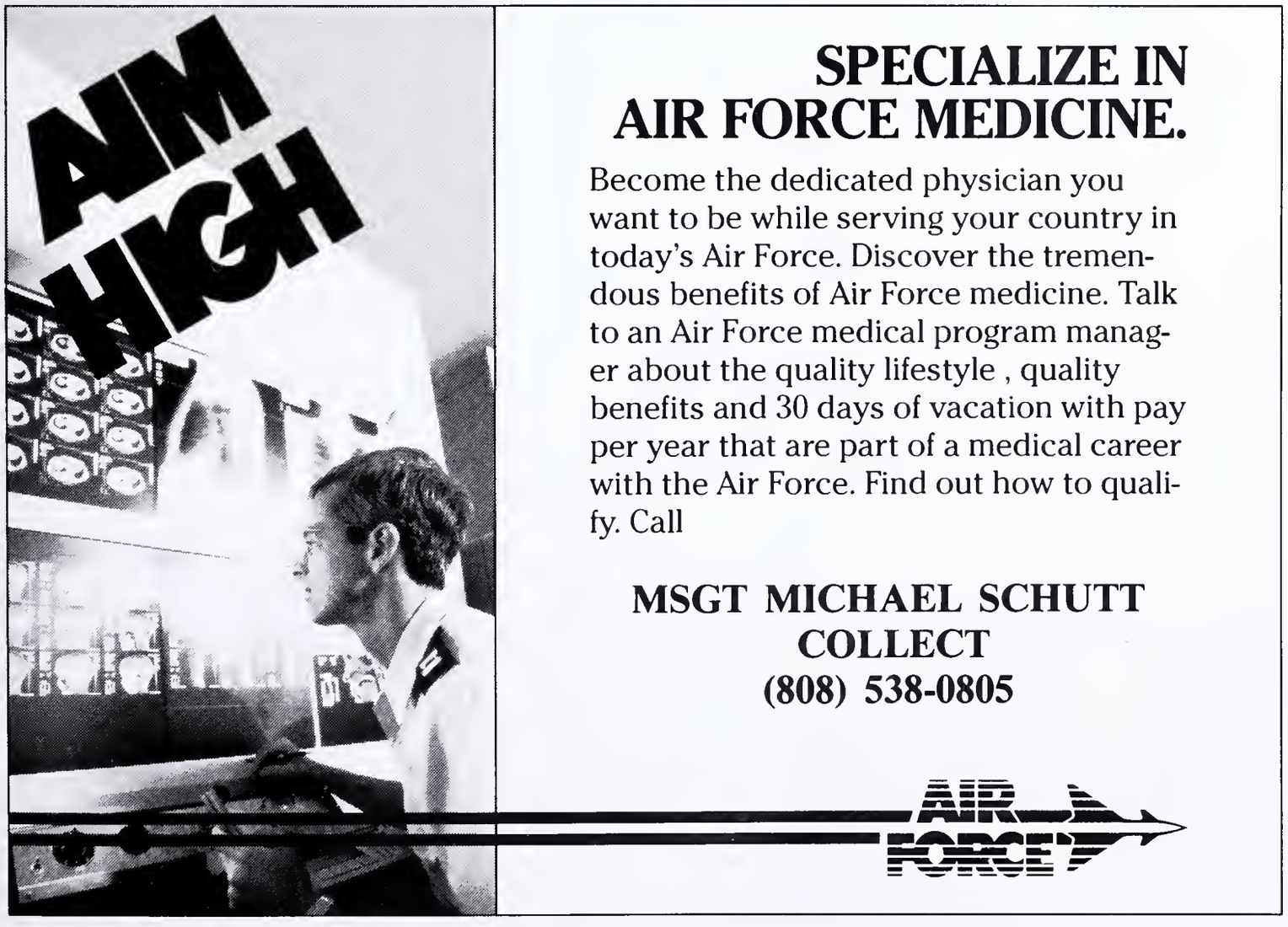
Concern for foetal well-being may also contribute to delays in the treatment of gestational breast cancer. Adjuvant therapy, indicated in Stage III and IV disease, entails both radiologic and chemotherapeutic modalities. In addition to the direct deleterious effects of ionizing radiation upon the foetus mentioned above, indirect, maternal effects, such as impaired uterine blood flow and decreased pelvic compliance following radiation therapy, may give rise to a greater incidence of spontaneous abortions, intrapartum complications, small-for-dates and premature babies.

It is reasonable to predict that antineoplastic agents, designed to be toxic to rapidly dividing cells, would have harmful effects upon foetal tissues. However, in their survey of 66 offspring of cancer survivors, (only 4 of

*(Continued)*►

**Table 1.**Number of Cases in Stage 1 as Percentage of All Cases After Age Group and Period of Diagnosis[7].

| Age Group (yrs) | 1955-1964 | 1965-1974 | 1975-1980 | 1981-1983 |
|---|---|---|---|---|
| <35 | 47.6 | 45.3 | 55.5 | 60.3 |
| 35-49 | 46.4 | 52.5 | 54.1 | 56.3 |
| 50-74 | 43.8 | 46.5 | 50.1 | 52.4 |
| >74 | 46.3 | 50.2 | 53.6 | 61.6 |



whom had been diagnosed with carcinoma of the breast) Mulvihill et al. were unable to report an excess of abnormal outcomes following in-utero exposure to cytotoxic drugs. The authors hypothesized that the placenta may serve as a chemical barrier; they concluded that chemotherapy is "not inevitably teratogenic"[12]. (Their survey by questionnaire appears inherently ineffectual in appreciating the incidence of subtle complications and long-term sequelae, which may more accurately be assessed by prospective studies.)

Treatment delays in gestational breast cancer may be the result of previous dire projections for maternal survival, published by early investigators. In 1943, Haagensen and Stout reported a series of 20 cases that presented themselves to Columbia-Presbyterian Hospital in New York, 19 of whom were node-positive at diagnosis, none of whom survived 5 years. The authors concluded that gestational breast cancer was "categorically inoperable"[13].

A slow change from this position followed the publication in 1962 of a series of 52 cases of gestational breast cancer treated at the Memorial Hospital of New York. Five-year survival of 35% in the 72% with involved axillary nodes, and of 64% in the node-negative minority was reported[5]. For the most part, subsequent studies have concurred that there is no significant difference in survival between pregnant women and their non-pregnant controls, when matched "age for age and stage for stage." Recently Petrek reviewed the same 52 women, reporting 10-year survivorships of 25% in the 29 node-positive women, and of 76% in the 23 node-negative women. These rates compare favorably with the 42% and 75% survival rates of node-positive and node negative controls respectively[13]. One dissenting study by Tretli et al., however, found significantly worse outcomes in 20 cases of gestational breast cancer, with 50-month survival of 24%, compared to 60% in matched controls[15].

Influenced by the initial reports of poor long-term survival in gestational breast cancer, affected women were advised to terminate their pregnancies. Recent reviews refute such recommendations.

In a series of 63 pregnant patients treated for primary breast carcinoma at the Mayo Clinic from 1950 to 1980, 5-year survival rates of 43% were reported in the 27 who elected to interrupt their pregnancies, compared to 59% 5-year survival in the 36 who went on to deliver at term[9]. Similar findings in 100 cases of gestational breast cancer seen between 1926 and 1972 were published by the Petrov Research Institute of Oncology in Leningrad[1]. These statistics may be skewed by a subtle form of patient selection, in which women with advanced disease and less favorable prognoses were more inclined to interrupt coincident pregnancies. Nevertheless, there is no evidence of improved maternal survival following the termination of pregnancy.

Conversely, what is the role of early delivery to obviate harm to the foetus? Judicious use of staging studies, and deferral until after delivery of adjuvant therapy, has already been discussed above, in order to minimize the risks of radiation and chemotherapy. Nevertheless, it is important to state that the maternal malignancy itself is not known to have any direct deleterious effect on the developing foetus[10]. There are no cases of metastases to the foetus, as occurs with melanoma and choriocarcinoma, although metastases to the placenta have been documented as being rare[13].

Since 10% to 15% of breast cancers occur in women of childbearing age, the issue of future fertility has had to be addressed. Investigative studies discouraged subsequent pregnancies. Recent reports, however, have failed to demonstrate diminished survival rates in women who become pregnant after previous definitive treatment for breast cancer.

Ribeiro et al. reviewed 57 patients with subsequent pregnancies, reporting 5- and 10-year survivorships of 69% and 53% respectively. Survival was influenced by stage of disease, particularly with regard to axillary node status, with 26% 10-year survival rates in the 29 node-involved women and 64% 10-year survival rates in the 22 with negative nodes[14]. Harvey et al. followed, at the Memorial Sloan-Kettering Cancer Center, a cohort of 41 women who became pregnant after treatment for primary breast cancer[4]. All women in the series were node-negative. They found 10-year survival rates of 80% in women who carried their pregnancy to term. In the subgroup who became pregnant less than 2 years later, 10-year survival rate was 69%.

As the risk of recurrent disease peaks in the 2 years following surgery, and then at approximately 1% per annum thereafter, these figures reflect the reduced mortality in those who survive the first 2 years[5]. More significantly, 10-year survival rates in those women who elected to terminate their pregnancy fell to 37%. Thus, subsequent pregnancies did not appear to have a deleterious effect upon survivorship.

The numbers of women pregnant at the time of diagnosis of, or subsequent to, treatment for breast cancer, albeit small, may be expected to increase. Retrospective reviews of such small numbers have been plagued by lack of statistical significance; therefore, the issues related to gestational breast cancer are far from resolved. This much may be stated with reasonable certainty: There is no evidence that the state of pregnancy, in and of itself, reduces survival in carcinoma of the breast. It may indeed confer a protective advantage in affected women.

## Conclusion

The most reliable prognostic factor remains the staging of disease at the time of surgery. This underscores the importance of diagnosis without delay, followed by prompt treatment. The greatest strides in improving patient survival lie in increasing physician awareness. Management of gestational breast cancer does not deviate from that offerred non-pregnant women, except that adjuvant therapy in advanced disease may be deferred until after delivery, sparing the foetus the potentially damaging effects of exposure to ionizing radiation and cytotoxic

*(Continued on page 24)*►



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**BREAST CANCER** *(Continued from page 22)*

drugs. There is no therapeutic role for interruption of coincident or subsequent pregnancies. To paraphrase the words of investigator, it is the cancer and not the pregnancy that should be terminated[13]. However, projected long-term survival rates must surely have an impact on maternal decisions regarding pregnancy and parenthood.


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**ASPHYXIOPHILIA** *(Continued from page 16)*

lead to a better understanding of the phenomenon.

While this paper was in press, Saunders reviewed the topic of asphyxiophilia and called for educators and therapists to be more outspoken in warning youth and young adults of the dangers of such behavior.[31] The authors of this paper second that exhortation.


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This work owes a debt of gratitude to the Department of the Medical Examiner; City and County of Honolulu; Alvin Omori, MD, Medical Examiner; and especially Mary Flynn, MD; and Kanthi Gunatilake, MD. Thanks are also due to Dolores Weidman of the Suicide and Crisis Center for her input in regard to the "psychological autopsies."



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# Medical Tips & Tricks

*HMA member Lorrin Lau sits on the Publications Committee, which is chaired by Henry Yokoyama; the Committee is the JOURNAL's overlord.*

*Lorrin came up with the suggestion earlier this year, that pearls of medical wisdom emanating from the long-time experience of medical practitioners be publicized in these pages. We on the Committee all thought it was a neat idea.*

*Starting in this issue, we enter the first such "Medical Tips & Tricks," appropriately generated by Lorrin Lau himself.*

*Readers are encouraged to follow suit and submit items from their personal experience in practice — so as to keep this columm going.*

*The Editor*

Theodore Tseu shares a method of needleless anesthesia for intrauterine procedures such as endometrial biopsy, insertion or removal of intrauterine devices, or dilation of a stenotic cervical os. He learned this from Dr. Hoffmeister from Marquette during a Pan-Pacific Surgical Association meeting several years ago.

A tapered Foley adapter attached to a needle extender is attached to a 5 ml syringe containing 4% xylocaine. This is then inserted into the cervical os and canal and 2-3 ml are slowly injected. The adapter is held in place about 3 minutes before it is removed from the cervix. Holding the solution in the intrauterine cavity longer than this may give better results. In a cervix with a stenotic canal, this method may result in relaxation sufficient to insert a 2 mm endometrial biopsy catheter, obviating the need to put a patient to sleep for the procedure.

**Sharing Questions and Concerns**

Have colleagues seen acute pyelonephritis without fever and chills? Can anyone suggest cases for review that might throw light on the circumstances under which this can occur?

Recently, a 20-year-old gravida 2 Para 1 ITOP 1, without a missed period, was admitted through the emergency room with a diagnosis of acute pyelonephritis to receive intraveneous antibiotic therapy.

She had had pain in the right side of her abdomen and back the night before. On the morning of admission she felt a dull throbbing pain in both the right lower quandrant and right costovertebral angle regions. She had gone to school anyway, ate a cracker, became nauseated and vomited until there was nothing left but the dry heaves. She presented herself to the emergency room because she had dysuria, a pressure in the bladder even after voiding, a burning in the bladder area and because she felt dizzy and was unable to hold anything down. She was afebrile. HCG was negative. Urine contained over 100 leucocytes per high power field, with clumps of white blood cells. WBC was 15.4 thousand with a slight shift to the left. Hemoglobin was 14.4 gm and the hematocrit was 44%.

After admission, the right costovertebral angle tenderness became more pronounced, but during treatment with intravenous mezlocillin the right lower quandrant tenderness along the course of the ureter abated. Blood cultures were negative. The pre-treatment urine culture showed over 100,000 Aerobacter aerogenes per ml. Seventy-two hours later, all pain and tenderness disappeared; the urine cultures were then negative. The leukocytosis disappeared. She remained afebrile and free of chills throughout this illness.

Your comments may be mailed or phoned to the JOURNAL at the HMA office, 1360 South Beretania St., Honolulu, Hawaii 96814, (808) 537-7702.

H. Lorrin Lau, MD
1010 S. King St., Suite 109
Honolulu, Hawaii 96814

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**EDITORIALS** *(Continued from page 3)*

Fund that "repays clients bilked by lawyers" (the HMA wrestled with the Legislature on that issue years ago and the Patients' Compensation Fund went broke!).

We commiserate with our legal bretheren, having trod this path over the years; we might even offer to them our expertise in how to approach the Legislature (a hotbed of attorneys, most of them trial lawyers!) — admittedly with minimal success, however.

Aside from that, there is serious food for thought in the matter of mandatory membership in a professional association. We in medicine do not have the likes of a supreme court that has jurisdiction over all lawyers, whether they be members of the Bar or not. The HMA does have about the same ratio of around 50% of the entire State population of physicians as members, that the Hawaii State Bar Association has (2,800 out of 4,000 lawyers). Our only recourse for "reforms" is to the State Government at present. The HMA can institute reforms only within its membership, through a democratic process.

If, on the other hand, membership in the HMA were mandatory for all — or only practicing — physicians in the State, we could do a better job of regulating ourselves (we avoid the term "policing," please note!).

What's more, our dues could be instantly cut in half! And, the "leaners" would *have to* participate with the "lifters"!

J.I. Frederick Reppun, MD
Editor

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## Reader's Express Their Views

**Disorder expands proportionately to the tolerance for it.** The Congressional struggle regarding expenditure targets has progressed through the House Ways and Means Committee, but was rejected by the Commerce Committee. The latter committee was fearful that services would be reduced to the elderly, and therefore refused to adopt ETs. The AMA (and ASCRS) are on opposite sides with the American College of Surgeons regarding ETs. The ACS feels that ETs should be adopted for surgical procedures (to the delight of Fortney "Pete" Stark), while the AMA rejects the concept. One wonders if ETs are applied to surgical procedures, how long it will be before the concept is expanded to encompass all expenditures. We all remember the saying about the camel's nose in the tent, or, just a touch of pregnancy.

**Those who are most moral are furthest from the problem.** The Supreme Court of the United States, without comment, has upheld the

*(Continued from page 28)* ►

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law banning reimbursement for services of assistants at cataract operations. The New York Ophthalmological Society challenged the law claiming it violated patients' protection of privacy and liberty. The battle was fought as far as possible, but lost at each level. By refusing comment, the Supreme Court affirmed the action of the appellate court. There are provisions in the law that allow for reimbursement by the PRO on a per-case basis for assisting with cataract surgery, but as every eye surgeon knows, rarely does one know beforehand when a skilled assistant would be vital to a successful surgical outcome.

**To err is human — to blame it on someone else is even more human.** Also on the legal front — In West Virginia a doctor obtained verbal consent from the mother of a deceased 17-year-old to remove organs for transplant (kidneys and eyes), but the father later decided against removal. The hospital team proceeded, believing they had permission, and subsequently a legal complaint was brought. A jury found (damages $600,000) that the medical center (not the doctor), was at fault for not making sure that its employees knew the rules pertaining to organ donations. This case points up the necessity to follow strict protocols, abide by legal statutes, obtain clear and official authorization, and especially refrain from removing organs if there is any doubt as to consent. It's a lesson for us all who remove tissue for the Lions and Makana Foundations.

**No amount of genius can overcome a preoccupation with detail.** The "Quality Intervention Plan" was initiated in April 1989 by PROs around the country. What is that, you ask? Simply that we are now in an era of Medicare demerits, where PROs may assess points against doctors found not to provide quality care to Medicare patients. Infractions may be minor, such as poor recordkeeping, and result in a demerit of one point, while a more serious violation would give a greater penalty. A score up to 25 would result in sanctions against the physician. Scores are to be kept on a "rolling quarter basis." Is this bureaucracy gone loco with a boy scout mentality, or did Congress really have this in mind in the Medicare law?

**Public money is like holy water: Everyone helps himself.** Last year, Guaranteed Student Loan (GSL) defaults cost taxpayers $1.4 billion! That sum would provide average college tuition for 564,000 students. Eighty-four percent of GSLs issued by Odessa's College of Beauty in Gary, Indiana, defaulted; 86% the Cambridge Business College in Detroit; 88% Jerome's School of Beauty Culture in New Orleans; but the national champion was Sawyer School of Business in Michigan with 93.8% defaults. With how little wisdom is our land governed!

**There are no necessary evils in government. Its evils exist only in its abuses.** This conniving, diabolical contrivance of the bean counters of HCFA violates the spirit of fairness, integrity, free enterprise, and free trade. The *limited demonstration program* proposes to determine the feasibility of establishing centers where participating providers would reduce charges to Medicare in return for higher volume. "Budget fights are child's play compared to the impact of the *test program,* and the implications of ophthalmologists and cataract surgeons bidding against one another for Medicare business." Words spoken by David Karcher, executive director of ASCRS. "This proposal is not only deterimental, it is without merit." — Bruce Spivey, MD, EVP of the AA0. Machiavelli said it so well — "Divide and Rule."

**If the chosen representative does not represent the citizen, his voice is stifled.** Political participation through eye PACs is growing throughout our broad and beautiful land. An Academy survey revealed that Hawaii is No. 7 in the country in average contribution per ophthalmologist. Nevada at $545 is No. 1, Arizona second at $227, while Hawaii is $155/ophthalmologist. However, we are not in the top 10 for highest percent participation in PAC. The political philosophy of PACs is under attack. Their number has proliferated immensely, sometimes with large war chests to influence members of Congress, and critics claim that such special interests often work to the disadvantage of the populace at large.

**Everyone has a scheme that will not work.** Surprise, surprise. A recent survey confirms that concern for quality of care is declining. Eighty percent of business benefits managers polled, said that cost — not quality — will be the primary concern when it comes to designing employee benefits in the future. Unfortunately, many people refuse to recognize that whether it's an airline ticket or medical care, if price is the primary factor, quality must go down.

**It's morally wrong to allow suckers to keep their money.** Get in line if you want this super little roadster. *Road and Track* rated the "World's Best Cars" and included the Mazda MX-5 Miata with Ferrari Testarossa, Mercedes-Benz 300E, Porsche 911 Carrera — all selling for $40,000 or more. However, the Miata, fully loaded, goes for $18,000. But, forget the sticker price. Dealers and some purchasers have upped the price 20% or more, and apparently are making sales.

**Addenda —**

- A Rand study shows that children in HMOs are no better off than those in fee-for-service plans, although the former saw the doctors twice as often.
- 50% of British physicians are dissatisfied with medicine after only five years of practice. Workload and a gulf between doctors and management were two prime reasons.
- A Harris poll reported that 89% of Americans believe the health-care system needs fundamental change.
- When in doubt ask the young. They know everything.
- Did you hear about the faith healer who cured a ham?

Aloha and keep the faith.

Russel T. Stodd, MD
from the *Weathervane*
Vol. 6, No. 8, October 1989

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## CONTENTS

**HIGHLIGHTS OF THE 133RD ANNUAL MEETING OF THE HMA** 36

**CONTINUING MEDICAL EDUCATION** 41

**LETTERS TO THE EDITOR** 42
**An Open Letter**

**EDITORIALS** 43
**Abortion**
J.I. Frederick Reppun, MD

**PLASMAPHERESIS WITH EXCHANGE AS PRIMARY TREATMENT FOR THROMBOTIC THROMBOCYTOPENIC PURPURA** 44
Edward S. Dayoan Jr., BA
Andrew C. Dixon, MD
Elaine Rizzo, RN
Jeffrey M. Nakamura, MD

**EPIDEMIOLOGY OF OCEAN SPORTS-RELATED INJURIES IN HAWAII: 'AKAHELE O KE KAI'** 52
G. Harley Hartung, PhD
Deborah A. Goebert, MS
Raymond M. Taniguchi, MD
Gary A. Okamoto, MD

**PEP: PEER EDUCATION IN HEALTH FOR STUDENT EMPOWERMENT** 57
EdwardMargulies, MD, MPH
Kenneth Ito, MEd

**NEWS AND NOTES** 60
Henry Yokoyama, MD

**NEW YORK TAXI** 64
Robert S. Flowers, MD

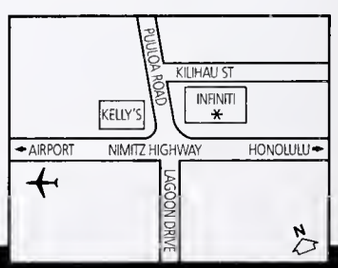
**READERS EXPRESS THEIR VIEWS** 66
Russell T. Stodd,MD

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**Contraindications:** VASOTEC® (Enalapril Maleate, MSD) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor

**Warnings:** *Angioedema.* Angioedema of the face, extremities, lips, tongue, glottis, and/or larynx has been reported in patients treated with ACE inhibitors, including VASOTEC. In such cases, VASOTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been confined to the face and lips, the condition has generally resolved without treatment, although antihistamines have been useful in relieving symptoms. Angioedema associated with laryngeal edema may be fatal. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mL to 0.5 mL), should be promptly administered.** (See ADVERSE REACTIONS.)

*Hypotension.* Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Patients with heart failure given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed; caution should be observed when initiating therapy. (See DOSAGE AND ADMINISTRATION.) Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion of any etiology. It may be advisable to eliminate the diuretic (except in patients with heart failure), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIONS, *Drug Interactions* and ADVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the first two weeks of treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident. If excessive hypotension occurs, the patient should be placed in the supine position and, if necessary, receive an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further doses of VASOTEC, which usually can be given without difficulty once the blood pressure has stabilized. If symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant diuretic may be necessary.

*Neutropenia/Agranulocytosis.* Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

**Precautions:** *General. Impaired Renal Function.* As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

**Evaluation of patients with hypertension or heart failure should always include assessment of renal function.** (See DOSAGE AND ADMINISTRATION.)

*Hyperkalemia.* Elevated serum potassium (>5.7 mEq/L) was observed in approximately 1% of hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with VASOTEC. (See *Drug Interactions.*)

*Surgery/Anesthesia.* In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

*Information for Patients*

*Angioedema.* Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

*Hypotension.* Patients should be cautioned to report lightheadedness, especially during the first few days of therapy. If actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

*Hyperkalemia.* Patients should be told not to use salt substitutes containing potassium without consulting their physician.

*Neutropenia.* Patients should be told to report promptly any indication of infection (e.g., sore throat, fever) which may be a sign of neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

*Drug Interactions.*

*Hypotension. Patients on Diuretic Therapy.* Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and DOSAGE AND ADMINISTRATION.)

*Agents Causing Renin Release:* The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

*Other Cardiovascular Agents.* VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyldopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence of clinically significant adverse interactions.

*Agents Increasing Serum Potassium.* VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

*Lithium.* Lithium toxicity has been reported in patients receiving lithium concomitantly with drugs which cause elimination of sodium, including ACE inhibitors. A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation of both drugs. It is recommended that serum lithium levels be monitored frequently if enalapril is administered concomitantly with lithium.

*Pregnancy – Category C.* There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enalapril to pregnant hamsters.

There are no adequate and well-controlled studies of enalapril in pregnant women. However, data are available that show enalapril crosses the human placenta. Because the risk of fetal toxicity with the use of ACE inhibitors has not been clearly defined, VASOTEC® (Enalapril Maleate, MSD) should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Postmarketing experience with all ACE inhibitors thus far suggests the following with regard to pregnancy outcome. Inadvertent exposure limited to the first trimester of pregnancy has not been reported to affect fetal outcome adversely. Fetal exposure during the second and third trimesters of pregnancy has been associated with fetal and neonatal morbidity and mortality.

When ACE inhibitors are used during the later stages of pregnancy, there have been reports of hypotension and decreased renal perfusion in the newborn. Oligohydramnios in the mother has also been reported, presumably representing decreased renal function in the fetus. Infants exposed *in utero* to ACE inhibitors should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support of blood pressure and renal perfusion with the administration of fluids and pressors as appropriate. Problems associated with prematurity such as patent ductus arteriosus have occurred in association with maternal use of ACE inhibitors, but it is not clear whether they are related to ACE inhibition, maternal hypertension, or the underlying prematurity.

*Nursing Mothers.* Milk in lactating rats contains radioactivity following administration of $^{14}C$ enalapril maleate. It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be exercised when VASOTEC is given to a nursing mother.

*Pediatric Use.* Safety and effectiveness in children have not been established.

**Adverse Reactions:** VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 2987 patients.

*HYPERTENSION.* The most frequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were: diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

*HEART FAILURE.* The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial infarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each category:

*Cardiovascular:* Cardiac arrest, myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*), cardiac arrest, pulmonary embolism and infarction, rhythm disturbances, atrial fibrillation, palpitation.

*Digestive:* Ileus, pancreatitis, hepatitis or cholestatic jaundice, melena, anorexia, dyspepsia, constipation, glossitis, stomatitis.

*Musculoskeletal:* Muscle cramps.

*Nervous/Psychiatric:* Depression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

*Urogenital:* Renal failure, oliguria, renal dysfunction (see PRECAUTIONS and DOSAGE AND ADMINISTRATION).

*Respiratory:* Bronchospasm, rhinorrhea, sore throat and hoarseness, asthma, upper respiratory infection.

*Skin:* Herpes zoster, urticaria, pruritus, alopecia, flushing, hyperhidrosis.

*Special Senses:* Blurred vision, taste alteration, tinnitus.

A symptom complex has been reported which may include a positive ANA, an elevated erythrocyte sedimentation rate, arthralgias/arthritis, myalgias, fever, serositis, vasculitis, leukocytosis, eosinophilia, photosensitivity, rash, and other dermatologic manifestations.

*Angioedema.* Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

*Hypotension.* In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause for discontinuation of therapy in 1.9% of patients with heart failure. (See WARNINGS.)

*Clinical Laboratory Test Findings:*

*Serum Electrolytes.* Hyperkalemia (see PRECAUTIONS), hyponatremia.

*Creatinine, Blood Urea Nitrogen.* In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation of VASOTEC and/or other concomitant diuretic therapy, were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients.

*Hemoglobin and Hematocrit.* Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g% and 1.0 vol %, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% of patients discontinued therapy due to anemia.

*Other (Causal Relationship Unknown):* In marketing experience, rare cases of neutropenia, thrombocytopenia, and bone marrow depression have been reported. A few cases of hemolysis have been reported in patients with G6PD deficiency.

*Liver Function Tests.* Elevations of liver enzymes and/or serum bilirubin have occurred.

**Dosage and Administration:** *Hypertension.* In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, if possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) If the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed.

If the diuretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*)

The recommended initial dose in patients not on diuretics is 5 mg once a day. Dosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses. In some patients treated once daily, the antihypertensive effect may diminish toward the end of the dosing interval. In such patients, an increase in dosage or twice-daily administration should be considered. If blood pressure is not controlled with VASOTEC alone, a diuretic may be added.

Concomitant administration of VASOTEC with potassium supplements, potassium salt substitutes, or potassium-sparing diuretics may lead to increases of serum potassium (see PRECAUTIONS).

*Dosage Adjustment in Hypertensive Patients with Renal Impairment.* The usual dose of enalapril is recommended for patients with a creatinine clearance > 30 mL/min (serum creatinine of up to approximately 3 mg/dL). For patients with creatinine clearance ≤ 30 mL/min (serum creatinine ≥ 3 mg/dL), the first dose is 2.5 mg once daily. The dosage may be titrated upward until blood pressure is controlled or to a maximum of 40 mg daily.

*Heart Failure.* VASOTEC is indicated as adjunctive therapy with diuretics and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose of VASOTEC, the patient should be observed under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*) If possible, the dose of the diuretic should be reduced, which may diminish the likelihood of hypotension. The appearance of hypotension after the initial dose of VASOTEC does not preclude subsequent careful dose titration with the drug, following effective management of the hypotension. The usual therapeutic dosing range for the treatment of heart failure is 5 to 20 mg daily given in two divided doses. The maximum daily dose is 40 mg. Once-daily dosing has been effective in a controlled study, but nearly all patients in this study were given 40 mg, the maximum recommended daily dose, and there has been much more experience with twice-daily dosing. In addition, in a placebo-controlled study which demonstrated reduced mortality in patients with severe heart failure (NYHA Class IV), patients were treated with 2.5 to 40 mg per day of VASOTEC, almost always administered in two divided doses. (See CLINICAL PHARMACOLOGY, *Pharmacodynamics and Clinical Effects.*) Dosage may be adjusted depending upon clinical or hemodynamic response. (See WARNINGS.)

*Dosage Adjustment in Patients with Heart Failure and Renal Impairment or Hyponatremia.* In patients with heart failure who have hyponatremia (serum sodium < 130 mEq/L) or with serum creatinine >1.6 mg/dL, therapy should be initiated at 2.5 mg daily under close medical supervision. (See DOSAGE AND ADMINISTRATION, *Heart Failure,* WARNINGS, and PRECAUTIONS, *Drug Interactions.*) The dose may be increased to 2.5 mg b.i.d., then 5 mg b.i.d. and higher as needed, usually at intervals of four days or more, if at the time of dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

*For more detailed information, consult your MSD Representative or see Prescribing Information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, PA 19486.*

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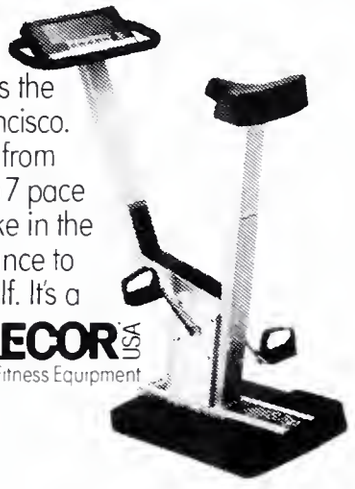


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# Highlights of the 133rd Annual Meeting, 10-12 November 1989 of the Hawaii Medical Association at Kaanapali, Maui

The call to order by Speaker Richard Ando took place in the Kula Room of the Westin-Maui Hotel a little after 1:30 PM on Friday the 10th. There was a goodly attendance by delegates, members and visitors.

Kalani Brady was called to give the invocation. This is an honored tradition of the physician association, founded in A.D. 1856 during the reign of King Kalakaua over the Hawaiian Islands. We thought Kalani's prayer was pertinent to our purpose and mission and worth quoting for all our members to note:

> Heavenly Creator, we pause for a moment,
> Mindful of your presence.
> We gather again as a body of healers–
> Keep us mindful of the past:
> Our training, our mentors;
> The richness of the experience
> You have given us.
> Let us focus on the present:
> A time to concentrate on the business
> Of Organized Medicine before us.
> We hope for the future:
> A path rich in your blessing
> And provision.
> Bless us with your presence, we pray! Amen.

A moment of silence was requested in memoriam of the 13 members who had died during the past year. They are: Homer Benson, Richard Chiang, Edwin Chung-Hoon, Robert Emrick, Homer Izumi, David Katsuki, William Kilpatrick, George Kojak, Wilbur Lummis, John Milnor, William Stevens, Sau Kee Wong, and William John Holmes.

Secretary Myron Shirasu next read off the list of certified delegates. According to our by-laws, only those delegates who have been duly elected by their respective county medical society members may be certified for the House. Two other members were seated and accorded the privilege of participating in the proceedings, but were not allowed to vote, since they had not been elected: Leonard Howard of Honolulu and Gerald McKenna of Kauai.

After some other housekeeping activities, President Allan Kunimoto introduced AMA Trustee John Dawson and asked that he address the House of Delegates.

Dawson is a surgeon in Seattle. He started off by recognizing our George Mills for all the effort he had put in over the years in helping to direct the American Medical Association.

"Physicians are being isolated," he said, meaning that we are being hemmed in by forces around us that are eroding our control of the practice of medicine. "Physicians are being blamed for the $500 billion cost of medical care in this country...Politics is entering the medical, ethical and social arena...As more people are getting involved in health care, the role of the doctor is diminishing...Both the government and the insurance industry are intent on rationing, which to all intents and purposes will decrease the quality of medical care." [We were pleased to hear him emphasize that.]

Dawson went on to say that the CON (Certificate of Need) was an unconscionable process. He asked, for example, how many MRI units we had on Maui. The answer came as a bellow from the audience: "Only one in the whole State of Hawaii and it's in Honolulu!" to which he quipped that in Seattle there were two a block away on either side of his office, among others in town.

The AMA Trustee mentioned RBRVS and ETs as they related to budget reconciliations, the AMA's position favoring the first and opposing the second, but that those things were now in Conference Committee. He urged that physicians bombard their Congressional representatives with phone calls and letters in support of the AMA position.

State Director of Health Jack Lewin, a member of HMA, was asked to take the podium as the next speaker. His address focused on the *State Program for Coverage of Medical Care for the Uninsured in Hawaii*, for which the Legislature had appropriated $10 million. It was to start in March 1990 and be implemented in June.

The very rough estimate (there are no hard and fast statistics) is that about 5% of the State's population lack medical insurance – the unemployed, the partially employed, the self-employed and probably quite a few who prefer to pay their own way in the event of illness or injury not covered by Workers' Comp.

Jack granted that the availability of quality medical care is good in our state, but that access was limited by the matter of cost. He cited as an example of good insurance coverage that the 6,000 employees of his department get more than $300,000 in medical benefits, above and beyond their wages and salaries.

He went on to say there might be 30 to 50 thousand people in Hawaii who could qualify to be included in a program for which the premium would be $40 to $60 a month, depending on income. This would be between $13,740 and $20,709 per annum in the case of a single person, and $27,840 to $41,759 in the case of a family for four. An individual making between $6,870 and $13,739 a year, or a family of four whose combined income was between $13,919 and $27,839, would not have to pay any premiums in order to be covered. "The restrictions in qualification would have to be realistic," Jack said, "but we promise a minimum of bureaucratic obstacles, in order to encourage application by those in need."

The next item of business was the presentation of HMA's First Annual Legislative Award to Senator Mamoru Yamasaki, who was present, for his unswerving dedication to improving the health of the people of Hawaii and particularly of its children. The Senator addressed the House briefly, emphasizing his dedication. The Speaker called a recess to allow members to come up and thank the Senator personally.

After some more housekeeping procedures, the House was declared in recess in order for the Reference Committees to listen to testimony on the submitted reports of committees and the resolutions put before the House.

The three Reference Committees were to have their reports typed up and ready for presentation to the HoD two days later, on Sunday the 12th. Because of transportation limitations at Hawaiian Airlines at Kapalua airport, the HoD was called to order at 12:30 PM Sunday, instead of the usual later time. Perhaps that was why the reports were abbreviated, such that the delegates either knew what was being recommended, or didn't care and didn't have time to leaf through the handbook to find out. Speaker Ando and Vice-speaker Herbert K.W. Chinn, taking turns, often allowed little time for discussion. We thought much time was wasted when the Speakers repeated what the RC chair had just said; surely there must be a better way to speed things up and still allow sufficient time for discussion of issues. However, the House completed its business within three hours on Sunday, before adjourning.

The interim between sessions of the House were well taken up by a Sportsmen's Night banquet on Saturday and a Presidential Inauguration Ceremony on Friday night.

Former President Russ Stodd presided at the podium, following a musical interlude while the guests seated themselves. The ceremony began, as it has the past several years, with pomp and circumstance, as the formally-dressed ex-presidents, each with his medal of high office on a ribbon around his neck, the officers and the guests marched into the auditorium and up onto the dais behind the podium.

Outgoing president Allan Kunimoto made a speech (subsequently published in the *Journal*) as his farewell remarks. AMA Trustee John Dawson then installed incoming President John Kim. John's inaugural address was a moving one but laced with anecdotal humor. He made much of "humanism" as an element in patient care that we all need to be reminded of. He also lavished praise on Allan for having accomplished, during his presidency, the building of a new and permanent home for HMA on Beretania Street near Keeaumoku in Honolulu.

We were honored to have Jean Hill, President of the AMA Auxiliary, on the stage. She praised out-going President Edith Don of the HMA Auxiliary for her work the past year and installed the new President Susan Chong Wong, wife of member Calvin Wong and a lawyer in her own right, who has served HMA well at the Legislature.

This ceremony is a way to honor those who have contributed most to HMA over many years, for their energy, efforts and time spent away from their

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offices. The rest of us may not appreciate the sacrifices these people have made and do make on our behalf and for the benefit of our patients; they are the stalwart pillars of Organized Medicine. They are the volunteers whom we could not possibly remunerate adequately with ordinary dollars.

On Sunday, Speaker Ando again called the House back from recess. He had obtained approval of the House for his proposal as to how to conduct the election of officers. In the past, this had always taken place at the very end, at a time when many delegates had to leave and a quorum was always in jeopardy. This time, the report of the Nominating Committee was presented on Friday. Nominations from the floor were accepted then. On Sunday, the nearly first order of business was the distribution of the ballots and the voting. This made it possible for the tellers to report promptly at the end of the afternoon the results of the vote.

President Kunimoto next presented the A.H. Robins award, HMA's Physician of the Year Award for Community Service, to Richard Kekuni Blaisdell, hematologist, Professor of Medicine at the UH School of Medicine, for his dedication to the people of the Hawaiian race and their health problems. Speaker Ando again called for a recess to allow delegates to congratulate Kekuni warmly.

The chairmen of the three Reference Committees made their reports to the House and the business of the House proceeded as follows:

Chairman Ernest Bade of Hilo reported the findings of the ***Reference Committee on Miscellaneous Business***; the other members of the committee were Scott Hundahl, Calvin Miura and Helen Percy.

The *Report of the Annual Meeting and Arrangements Committee:* That the 1990 annual meeting of the HMA be held at the Ilikai Hotel in Waikiki on the weekend of October 12-14, was adopted.

The *Report of the Publications Committee* was adopted but its request for $3,000 annually in order to publish the minutes of the Council meetings verbatim each month in the *Journal* was reduced to $1,000 to defray the costs of publishing the highlights only. The precise minutes would continue to be kept on file at the offices of the HMA and available for any member to read.

Russ Stodd's *Resolution No. 1* that would change the format of the annual meeting of the HoD to a two-day session separate from the Annual Scientific Meetings to be held twice a year and separate from the the social and sports events, was referred for further study back to the Annual Meeting and Arrangements Committee, with a report back to the HoD at its annual meeting in 1990.

George Mills' *Resolution No. 2* that the HMA "strongly encourage" the ADA and the DoH's Diabetes Control Program to expand their efforts particularly to include Native Hawaiians, was adopted.

Birendra Huja's *Resolution No. 3* asking that the HMA support Congressional bills S 304 and HR 604 that are anti-discrimination bills on behalf of Foreign Medical Graduates, was *not adopted*.

***The Reference Committee on Public Health***'s chairman Paul DeMare next took the podium; the other members of his committee were Julia Frohlich, Denis Fu and Niall Scully. The highlights of its report follow:

There was considerable discussion of the report of the *Committee on Physicians' Health* and the amendments to it recommended by the RC. These are important enough to be described fully herewith. Adopted by the HoD, as amended, were the recommendations:

1. That the Committee continue to operate on an on-call basis, to address impairment problems of physicians in the State, including those physicians who are not members of HMA.
2. That the chairman of the Committee or his or her delegate continue to attend the AMA National Conference on Impaired Health Professionals whatever year it is held.
3. That the Committee, on behalf of the HMA, approach the osteopathic physicians' professional organization in our community, in order to encourage it to set up a liaison with the HMA, so that the Committee can be available to assist osteopathic physicians who have impairment problems, as well.
4. That the HMA follow through with an intervention training course within the next six months to be provided to both members and nonmembers of HMA who are interested in such training.
5. That the Committee survey hospitals, clinics and other health care agencies over the next year, in order to compile statistics on the current status of both physician impairment committee activities and employee assistance programs that are currently available in the State, in order to use this information to form better liaison with individuals working in the impaired physician movement.
6. That the HMA direct the HMA Peer Review Committee to review, clarify and expand the written guidelines for due process, with special attention to the functioning of the Committee on Physicians' Health.
7. That the Committee work collaboratively with the Board of Medical Examiners to develop a Diversion Program to provide the rehabilitation needed by the impaired physician and outside the legal/punitive system, with a report to the HMA Council in six months. [It was explained that "Diversion" is a legal term meaning work or service that the unpaired physician would be allowed to do while undergoing rehabilitation, instead of continuing his or her usual practice of medicine.]

The HoD also adopted the RC's recommendation that the Committee above be granted $3,000 (already in the budget) for its purposes this coming year.

The HoD adopted the report of the *Alcoholism and Other Drug Abuse Committee* which emphasized once again HMA's strong stand in favor of Administrative Revocation of License to Drive at the Time of DUI Arrest.

The report of the *Mental Health Committee* was adopted with the amendment that in view of the State's major effort to improve its low ranking nationally that no mention be made of its 51st (lowest) position as indicated in the Fuller Torrey report.

Because the *Sports Medicine Committee's* one symposium several years back proved to be largely self-supporting, the HoD adopted the RC recommendation that the Committee's budget be cut in half, to $3,750.

The HoD adopted the *Toxic Agents Committee* report, with the RC's recommendation that the education of physicians on their newly-mandated reporting requirements on environmentally-induced illness and injury (by pesticides); that their education include proper methods of handling medical wastes.

The *Health Care Costs Committee's* report was adopted; the RC added its strong recommendation that the Committee's recommendation No. 1 be given emphasis, namely: That HMA consider establishing liaison with management and with organized labor to convey the message that organized medicine is interested in working with the community-at-large. This was adopted by the House.

As for Neal Winn's *Resolution No. 3* – Mandatory Drug Testing of Physicians – the discussion was lively and prolonged. The House finally adopted the RC's revision, with "Mandatory" stricken from the title and "Resolved" also left out so as to state: That the HMA request the AMA to develop guidelines for the drug-testing of physicians.

George Mills' [perennial maker of HMA resolutions] *Resolution No. 4* that asked the HMA to alert its members to the implications of the law on the Native Hawaiian Health Care Act passed by Congress (PL 100-579), and how it relates to the role of Papa Ola Lokahi; how the proposed implementation of the mandated nine clinics might establish two levels of medical care, which should be avoided, was adopted.

There was also much discussion of Marion Hanlon's *Resolution No. 6*. This resolution objected to HMSA's retaining of Hawaii Biodyne Inc. to provide case management in the instance of subscribers seeking benefits under the recently passed State law requiring mental health and substance abuse benefits to be included in health plans. Participation in the Biodyne panel by physicians is a requirement for reimbursement in the treatment of such patients. The House finally adopted the recommendation of the RC: To substitute for the Resolution's Resolved the following: That this HoD instruct the HMA Council to develop means to investigate the extent of this third party intervention into the practice of medicine; and, that the Council be authorized to take the necessary action, including legal action against restraint of trade, needed to discourage control by HMSA over the freedom of physicians and patients in the delivery of health care.

*Resolution No. 7*, submitted also by Marion Hanlon, declaimed against the establishment of a certification examination by the Alcohol and Drug Abuse Branch (ADAB) of the DoH, which would deny physicians not so certified any remuneration for treating such patients. The House adopted the Resolution as amended by the RC to include the Board of Osteopathy in addition to the Board of Medical Examiners to "credential" rather than to "certify" those who are qualified to practice "addictive medicine"; and that the HMA seek legislation or whatever change is necessary to amend the current wording that requires addictive disease to be treated solely by the physicians who are certified by the State to do so.

At this time the Speaker acceded to the request of the chairman of the ***Reference Committee on Finance and Administration*** that no recess be taken; otherwise, he would have had to excuse himself in order to catch his plane. Chairman Edwin Gramlich took the podium; his RC members were Henry Fong, Bernard Fong and Larry Magnussen.

The RC had amended the *Report of the President* to recommend to the members that they take *at least* one day off to see the AMA House of Delegates in action when it meets at the Hilton Hawaiian Village in Waikiki on December 3-6. The HMA's HoD adopted the report with this change and gave Allan Kunimoto a standing applause in appreciation of what he had done while in office.

The House referred the fourth recommendation in the *Executive Director's Report* concerning the HMA's by-laws that allot one delegate per each 25

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members or fraction thereof of a component society, to the Long Range Planning and Monitoring Committee for study and report back to the 1990 HoD.

The *Report of the Treasurer/Finance Committee* with its balanced budget of $875,470 for 1990 was adopted by the House, as was the recommendation that dues for 1990 be increased by just $5 to $525.

The speaker then read off the results of the balloting for the 1990 officers and the Nominating Committee:

| | |
|---|---|
| President-Elect | John T. McDonnell |
| Treasurer | Jeanette H.J. Chang |
| AMA Delegate | Calvin C.M. Kam |
| Alternate AMA Delegates | John H.C. Kim |
| | John T. McDonnell |
| Speaker of the House | Richard E. Ando |
| Vice Speaker of the House | Frederick C. Holschuh |
| Councilor from Maui | Denis J. Fu |
| Councilor from Kauai | Richard M. Goodale |
| Councilor from Hilo | Ernest L. Bade |
| Councilor from Kona | Edwin P. Gramlich |
| Councilors from Honolulu | Patricia L. Blanchette |
| | Jeanette H.J. Chang |
| | Paul A. DeMare |
| | Michael D. Dung |
| | Edward J. Morgan, III |
| | John S. Spangler |
| Resident Physician Delegate | Jenny M. Nakama |
| Medical Student Delegate | Catherine O. Hill |
| Medical Student Alternate Delegate | Carlos R. Abeyta |

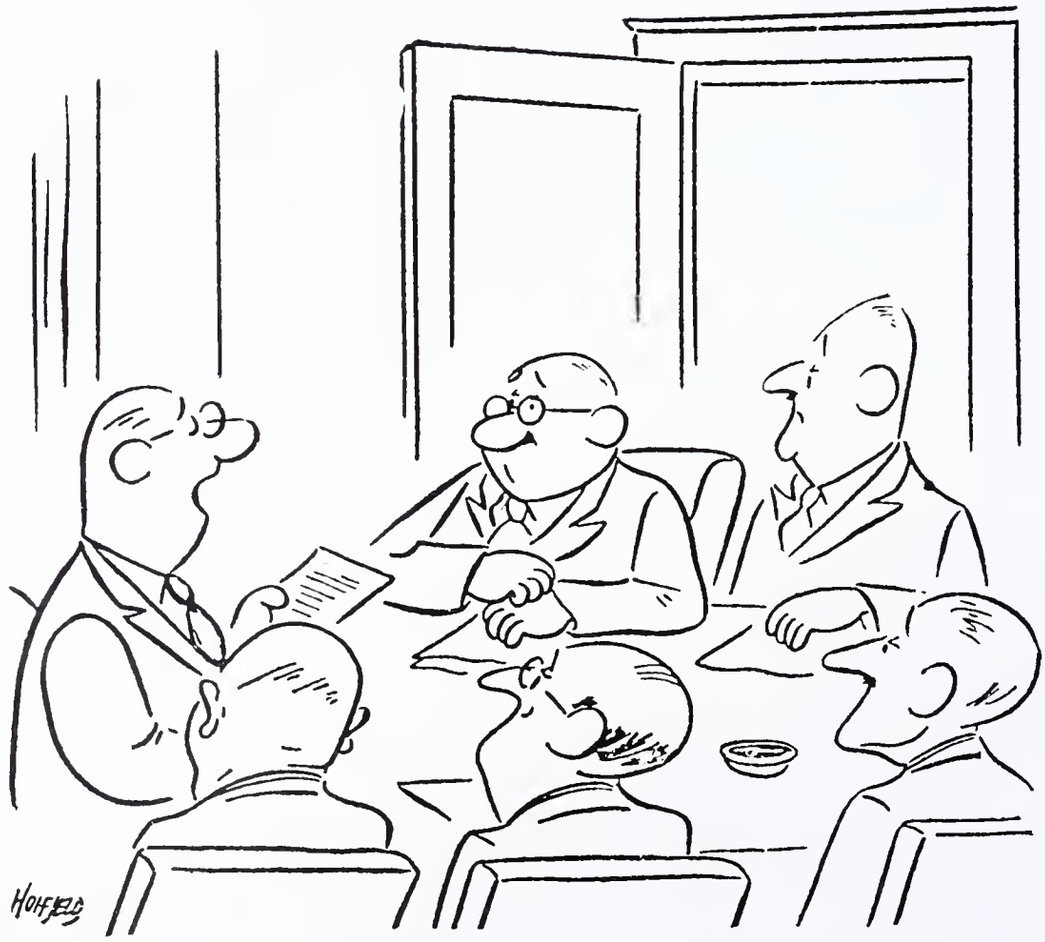
**1990 Nominating Committee**

| | |
|---|---|
| Honolulu | Paul A. DeMare |
| | Melvin S. Inamasu |
| | F. Don Parsa |
| | John S. Spangler |
| | Wes K.Y. Young |
| Hawaii | Ernest L. Bade |
| Kauai | Richard M. Goodale |
| Maui | Denis J. Fu |
| West Hawaii | Robert H. Laird |

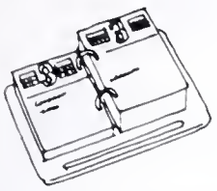
**Voting Members in Attendance**

Elizabeth Adams, Richard Ando, Alfred Arensdorf, Lee Au, Ernest Bade, S. Kalani Brady, J. Alfred Burden, Jeanette Chang, Herbert K.W. Chinn, H.H. Chun, Bernice Coleman, William W.L. Dang, Paul DeMare, Lorne Direnfeld, Andrew Don, John Druilhet, Gerald Faulkner, Bernard Fong, Henry Fong, Julia Frohlich, Denis Fu, Chiyome Fukino, Richard Goodale, George Goto, Edwin Gramlich, Christian Gulbrandsen, Marion L. Hanlon, William Hartman, Michael Hase, Russell Hicks, Edgar Ho, Frederick Holschuh, Scott Hundahl, William E. Iaconetti, Michael Inada, Melvin Inamasu, Virgil Jobe, Craig Kadooka, Calvin C.M. Kam, John H.C. Kim, Peter Kim, Allan R. Kunimoto, Kevin Kurohara, Ronald Kwon, Robert Laird, Richard Lee-Ching, Carl Lehman, John Lewin, James Lumeng, Dennis Maehara, Larry Magnussen, Scott Mandel, John T. McDonnell, George H. Mills, Lloyd Minaai, Jenny Nakama, Michael Nichols, Sada Okumura, Robert Palmer, F. Don Parsa, Helen Percy, Ronald Peroff, J.I.F. Reppun, Michael Savona, Bernard Scherman, Niall Scully, Myron Shirasu, Leilani Siri-Hundahl, John Spangler, George Starbuck, Rhoads Stevens, Russell T. Stodd, Kazuo Teruya, Sakae Uehara, Stephen Wallach, Robert Weiner, Rodney T. West, Calvin Wong, Wes Young, George Zakaib.

J.I. Frederick Reppun, MD
Reporter/Delegate




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# Continuing Medical Education

## CALENDAR OF ACCREDITED EVENTS—CATEGORY 1

Accredited Programs of CME allow one unit of AMA credit for each hour of instruction excluding all "breaks." Some programs also are accredited for AAFP prescribed credit.

### LOCAL ACCREDITED PROGRAMS

### ONGOING

For a complete list of ongoing programs, please refer to the September 1989 edition of the HAWAII MEDICAL JOURNAL. Further information is available through the individual institutions or through the HMA's CME Department.

### SPECIAL EVENTS

All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the HAWAII MEDICAL JOURNAL.

**FEBRUARY**

2/18-2/23

**9th Annual Masters Radiology Conference.** Contact: Mary Charles & Assoc., 2334 S. King St., Suite 205, Honolulu, HI 96726, 808-942-9655; FAX 808-949-1273. Location: Hyatt Regency Waikoloa, Big Island.

2/19-2/21

**1990 Mid-Winter Seminar.** Contact: Malcolm Ing, MD, 1319 Punahou St., Suite 1110, Honolulu, HI 96826; 955-5951. Location: Hyatt Regency, Waikiki.

2/19-2/23

**Hawaii 1990: 5th Annual Advances in Primary Care Medicine.** Pacific Institute of Continuing Medical Education and co-sponsored by the Hawaii Medical Association. Contact: Valerie Murray, P.O. Box 1059, Koloa, HI 96756, 808-742-7471. Location: Stouffer Waiohai, Kauai.

2/19-2/23

**Current Problems in Cardiology Diseases.** William L. Nietz, Division of Education, Mayo Clinic, Rochester, MN 55905, 507-284-2085. Location: Maui Marriott.

2/22-2/23

**Cardiology Conference in the 1990s - Concepts and Controversies.** Contact: Barbara Behrans, The Queen's Heart Institute, 1301 Punchbowl, Honolulu, HI 96813, 547-4466. Location: Ramada Renaissance Ala Moana Hotel, Honolulu.

2/24-3/03

**Wound Management.** Contact: Edith S. Bookstein, American Institute of Postgraduate Education, P.O. Box 2586, La Jolla, CA 92038; 619-454-3212. Location: Royal Lahaina Resort, Maui.

**MARCH**

3/05-3/09

**Geriatric Medicine Board Review Intensive Course & Conference.** Contact: University of Hawaii, John A. Burns School of Medicine, Division of Geriatric Medicine, 347 N. Kuakini St., HPM 9th Floor, Honolulu, HI 96817, 808-523-8461. Location: Halekulani Hotel, Honolulu.

**APRIL**

4/07-4/14

**Cardiopulmonary Emergencies.** Contact: Edith S. Bookstein, American Institute of Postgraduate Education, P.O. Box 2586, La Jolla, CA 92038; 619-454-3212. Location: Poipu Beach Hotel & Waiohai Resort, Kauai.

**JUNE**

6/06-6/10

**7th Annual Meeting of the Southern Orthopedic Association.** Location: Hyatt Regency Hotel, Maui.

**JULY**

7/24-7/26

**The Second Annual Queen's Cancer Institute Symposium: Gastrointestinal Malignancies '90.** Co-sponsored by the Hawaii Medical Association. Contact: Karen Taoka, Queen's Cancer Institute, 1301 Punchbowl St., Honolulu, HI 96813; 808-547-4660. Location: Hilton Hawaiian Village, Honolulu.



The Hawaii Medical Association does not review or evaluate the programs listed in the Hawaii Medical Journal Continuing Medical Education column and assumes no responsibility for educational value, scientific content, changes in agenda or cancellations.




# An open letter

Dear Senator Inouye:

I truly appreciate your attention to the issue I raised regarding the physicians' attestation that is required by Medicare. I want to preface my comments by acknowledging that I have been an admirer of yours for many years, even before I moved to Hawaii from California.

I read the letter from Thomas Morford sent to you on October 23, 1989, and I am responding to him with a carbon copy of this letter to you.

I appreciate Mr. Morford's recounting of the history of the establishment of this attestation. However, I don't see that the attestation does anything in the way of assisting Medicare to manage its funds. Neither do I see it as a cost-effective activity of the United States Government. Neither do I see it as a useful device that will enhance the accuracy or veracity of billing processes. Mr. Morford's letter does not, in any part of it, support those contentions.

It is only because I feel that this is an intentional provocation that is unnecessary, that is designed to be and is effectively irritating, that I am taking the time to carefully explain my position on this matter.

And now to respond to Mr. Morford's letter paragraph by paragraph:

Paragraph 2: The physician is, of course, the most knowledgeable person about the patient's condition and the care provided to the patient. Signing a document once a year that he/she is aware that punishment will be inflicted if a mistake is made is certainly no way to enhance the accuracy of filling out a form. Not unless Mr. Morford subscribes to the theory that children and other human beings should be threatened or beaten in order that they grow up honest and true. More to the point is that the physician does fill out the diagnoses but does not code the diagnoses. The hospital Medical Records Department does the coding. The Medicare computer reads the code numbers and the physician is not able to certify that the coding was done correctly. Contrary to what Mr. Morford says, "The use of Certification and Penalty Statement is standard in federal programs that involve the obligation of federal funds and many private insurers utilize similiar statements," I have never seen a private insurer requiring a similar statement. I have never been involved with any federal program that required an annual signature of this sort. Mr. Morford is misinformed or is misinforming us.

Paragraph 3: Indeed the Medicare prospective payment system published in January 1984 did require an even more onerous statement to be signed.

Paragraph 4: Indeed many concerns were expressed about that requirement and it is my intention now to continue expressing my concerns so that the requirement be dropped completely once and for all. The final regulation separates the certification statement from the actual chart of each patient. This means, of course, that the initial idea to get physicians to sign each chart was a poor idea. They did not find that it was necessary. However, a compromise was reached because the people insisting on a doctor making these attestation statements would not give up their position. There was never any reason expressed as to why they would not give up their position. They just demanded it to be that way.

Paragraph 5: Mr. Morford describes the statement that is now required to be signed annually. He does not explain or justify the value of that statement.

Senator Inouye, if I thought that causing this document to be put in front of every physician in the United States once a year would improve the quality of health care, or would lower the cost of health care, or would enhance the accuracy of the documentation of health care, then I would not hesitate to sign this document. But I was educated to question demands that may be made upon me. As a physician I have to evaluate what is best for my patient and I have to make suggestions to my patient, weighing evidence put before me. Medicare apparently trusts my ability to make these decisions on life-threatening matters; thus, I have to question the need for regulations such as this. If nothing else, the cost of secretarial time needed to return charts to physicians to get their signatures, and the amount of ballpoint pen ink needed to produce the signatures, and the amount of paper needed to print up these attestation documents is certainly a completely useless expense.

There are intelligent rules and regulations that may be onerous to accept but there are also stupid regulations that are wrong to accept.

Thank you for hearing me.

Sincerely,

Barry Blum, MD




# Abortion

The attention of the readers of the *Journal* is directed to the *JAMA* issue of September 15, 1989, specifically to pages 1522 and then 1519.

The first is an easy-to-read explanation of the interpretation of the U.S. Supreme Court: *Webster v. Reproductive Health Services* (as the Missouri statute was labeled). The 5-to-4 decision of the Court earlier this year has set off a burst of energy and activism between the "pro-life" people and the "pro-choice" advocates. The debates, the confrontations and the media hype are a prime example of the American love for minding other people's business!

The second refers the reader to a woman physician's cry for understanding when a woman — never a man, of course — finds herself in an intolerable predicament the result of a "high" in human experience, the emotional peak of a mutual orgasm enjoyed by an embracing couple, an irresistable joy that has thrown "reason" (and obstructive clothing) aside, as well as any religious and societal, moral proscriptions.

The first is from the office of the general counsel of the AMA; the second comes under a regular and fascinating page of *JAMA: "A Piece of My Mind."*

It was a long time ago that a committee of 3 of the HMA, by a vote of 2 to 1, recommended to the House of Delegates, which supported the recommendation, that the HMA inform the State Legislature that Hawaii's abortion law should be made more liberal. The legislators of that day did so; the revised Hawaii statute still prevails. It makes abortion legal, more or less on demand, if done under direct medical auspices in a hospital or a physician's office, within the first 20 weeks of a gestation, with caveats and exceptions stipulated.

Our main argument hung on the hook of resolving the unacceptable morbidity and mortality to which women-in-predicament were likely to fall victim, when they desperately sought back alley, illegal abortions. In this, the medical profession itself was not blameless; certain well-known MDs about town took the risk of resolving the danger to women, by following their own consciences in performing abortions under proper conditions of asepsis. Others — who were "afraid," for the most part, capable though we were — knew to whom to refer our desperate patients, even though that referral was itself illegal.

Those were *not* the "good old days."

We now urge readers to study the AMA's brief, so well said on a single page of *JAMA*. We quote significant excerpts:

"Finding the correct role for organized medicine in the legal debate over abortion . . . was a challenge. It seemed presumptuous [for the AMA] to purport to represent the profession . . . when physicians, like Americans in general, have widely divergent views on the issue. To a large extent, abortion is a moral — not simply a medical, or a scientific — question.

". . . [in view of a record 72 parties filing *amicus curiae* briefs] the AMA — which considered itself a resource for the Supreme Court on health policy issues — could not responsibly remain silent.

"So we entered the case, and . . . [with several other medical associations] jointly filed an *amicus* brief.

"First, as in our past Supreme Court appearances, the brief provided the Court with accurate [medical] information . . . the minimum age of potential viability has moved back only a little (from 28 to 24 weeks) since *Roe v. Wade*. We advised the Court that both abortion and childbirth, in at least some circumstances, carry significant health risks, although *abortion is safer overall* [emphasis ours/ed]."

AMA's general counsel Kirk Johnson, JD, goes on to state that the AMA objected to the Missouri statute that (a) required fetal viability tests at 20 weeks (because they served no useful purpose) and (b) the prohibition against counseling the patient by the physician.

The AMA brief also pointed out that "patients have a right to make important medical decisions in consultation with their physicians. . . . This right of privacy lies at the heart of the physician-patient relationship . . . [but that] protecting fetal life is a compelling state interest that can override the privacy right."

Because of no consensus among physicians on the issue of "when the embryo or fetus deserves protection . . . we took no stand."

Counsel Johnson ended the AMA's "position" with the statement: "A primary role of organized medicine will be to ensure that no law is passed or upheld, that conflicts with sound medical practice — whatever [may be] the extent of a woman's right to an abortion.

J.I. Frederick Reppun, MD
Editor

# Plasmapheresis with exchange as primary treatment for thrombotic thrombocytopenic purpura

Edward S. Dayoan Jr., BA*
Andrew C. Dixon, MD**
Elaine Rizzo, RN††
Jeffrey M. Nakamura, MD†

*Thrombotic thrombocytopenic purpura (TTP) is an uncommon disorder characterized by microangiopathic hemolytic anemia, thrombocytopenia, fever and renal and neurologic dysfunction. As a result of the availability of plasmapheresis, we can report the results of 5 patients treated with plasmapheresis and exchange transfusion who also received intravenous corticosteroids as adjunctive therapy. Our 5 patients had a mean age of 41 years, and presented with a mean platelet count of 39x10⁹/L. Four of the 5 patients responded to treatment and were discharged in excellent condition. The 5th patient succumbed to her disease. We concluded that plasmapheresis with exchange transfusion is a rapid and effective therapy for TTP.*

## Introduction

Thrombotic thrombocytopenic purpura is a rare disorder of unknown etiology, commonly affecting young adult women. First described by Moschkowitz in 1925, the classic diagnostic triad includes thrombocytopenia, microangiopathic hemolytic anemia and fluctuating neurologic signs[1]. More recently, renal abnormalities and fever have been reported as common findings[2].

* Student, year IV,
John A. Burns School of Medicine,
University of Hawaii, Honolulu, Hawaii

** Department of Medicine,
John A. Burns School of Medicine,
University of Hawaii, Honolulu, Hawaii

† Chief, Division of Hematology,
Department of Medicine,
John A. Burns School of Medicine,
University of Hawaii, Honolulu, Hawaii
and Kuakini Medical Center, Honolulu, Hawaii.

†† Chemotherapy, Kuakini Medical Center,
Honolulu, Hawaii

Please Address correspondence to:
Jeffrey M. Nakamura, MD
Department of Medical Education
Kuakini Medical Center
347 North Kuakini Street
Honolulu, Hawaii 96817

Until the early 1960s TTP was considered a fatal disease[3]. During the last three decades many advances have been made in the treatment of TTP. These began with the use of corticosteroids, and have since included other treatment modalities such as splenectomy and antiplatelet agents (Table 1).

**TABLE 1.**
**Treatments used in patients with thrombotic thrombocytopenic purpura.**

| |
|---|
| **Blood/Plasma Manipulations** |
| Hemodialysis |
| Whole blood exchange |
| Plasma exchange |
| Plasmapheresis |
| **Immunosuppressive Agents** |
| Vincristine |
| Corticosteroids |
| Others |
| **Antiplatelet Agents** |
| Aspirin |
| Dextran sulfate |
| Dipyridamole |
| Sulfinpyrazone |
| **Surgical** |
| Splenectomy |

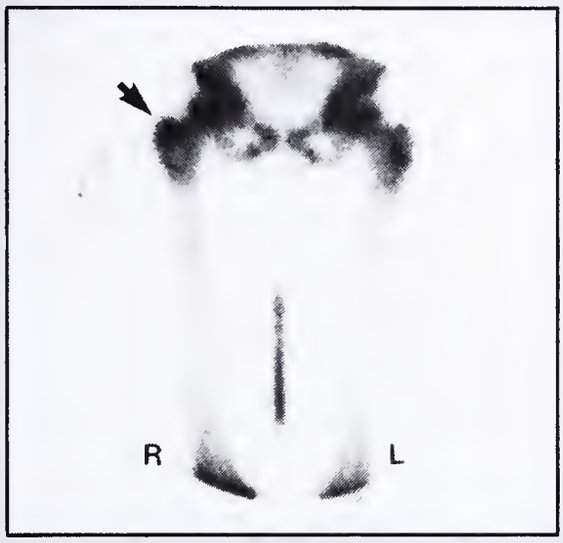
In 1959, Rubenstein reported significant response to whole blood exchange transfusion[4]. This and subsequent studies have led to the trials of plasma exchange transfusion that have demonstrated high response rates. In the 1980s plasmapheresis (the removal of blood, separation of plasma, and return of the packed cells suspended in a suitable medium) with plasma exchange has emerged as the effective treatment of choice, yielding complete response rates in about 70% of patients[5,6,7].

In reporting on our 5 cases with TTP, we include

►

# Nuclear Medicine Teaching File

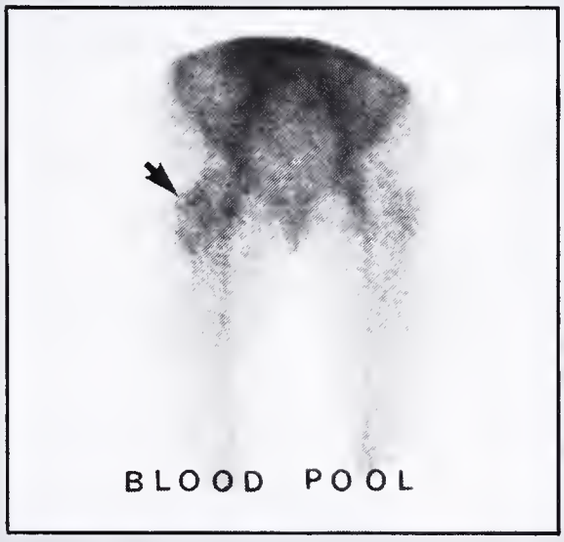
## THREE PHASE BONE SCANNING IN OSTEOMYELITIS



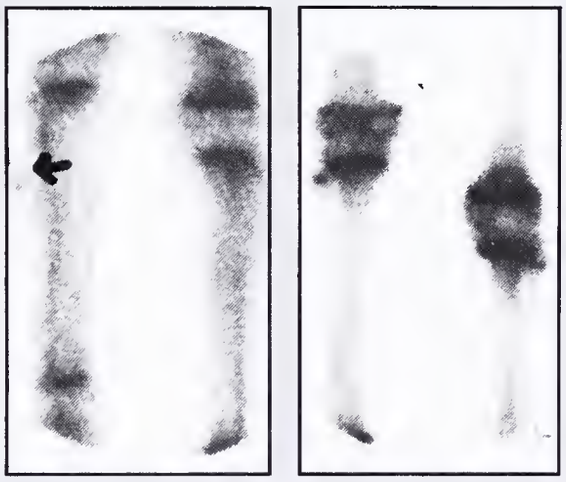

1. "Standard" bone image made 4 hours after injection (3rd phase) shows increased tracer localization in the right greater trochanter of an 8 year old with fever and hip pain. Is this osteomyelitis, tumor, fracture, etc.?




2. A single image from this patient's radionuclide angiogram or "flow study" (first phase) was taken from 12 to 16 seconds after injection and shows focally increased blood flow to the region of the right greater trochanter.




3. This patient's "blood pool" image, made from 1 to 2 minutes after injection (second phase) shows corresponding hyperemia. The early findings raise the specificity for osteomyelitis from roughly 75% to 95%, with no loss of the bone scan's exquisite sensitivity.




4. A 9 year old with soft tissue abscess below the knee is referred to rule out osteomyelitis. A: "Blood pool" image shows focal hyperemia superficially located. B: Delayed bone image shows no evidence of osteomyelitis. Diagnosis: soft tissue abscess without osteomyelitis.

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serologic data on the human immunodeficiency virus (HIV) and human T-lymphotropic virus type I (HTLV-I), retroviruses that have both been reported to be associated with TTP[8-11].

## Methods

The medical records of 5 patients with TTP were reviewed. The following information was extracted: Identification (age, sex, race), presenting signs and symptoms, past medical history and admission laboratory studies. Serial laboratory values for platelet count, lactate dehydrogenase, blood urea nitrogen and creatinine also were recorded, along with the results of the bone marrow and blood film examinations. Also noted were times when plasmapheresis with exchange was done, as well as the outcome of therapy.

Human immunodeficiency virus (HIV) titers were obtained on selected patients using an enzyme-linked immunosorbent assay (ELISA).

In 3 patients, human T-lymphotropic virus type 1 (HTLV-I) serology was performed by an ELISA assay, and when positive, the results were confirmed by Western blot analysis at Biotech Research Laboratories Inc., Rockville, Md. 20850.

## Results

### Patient Characteristics

Demographic data are presented in Table 2. The mean age of the 5 patients was 40 (range 25 to 64 years old). Three were men. Three were of Japanese heritage and the other 2 were Portuguese. All were born in Hawaii. Preexisting medical problems included a history of abnormal liver function tests (patient #2), a seizure disorder (patient 3), and a history of hypertension (controlled with antihypertensive medication) and migraine headaches (patient #4).

### Clinical Data

The clinical findings are shown in Table 3. The most common symptoms were fever in 4 patients and neurologic manifestations such as obtundation, agitation and confusion in 3. Patient #2 complained of bloody stools, patient #5 presented with periorbital ecchymosis, and patient #3 was noted to have generalized petechial lesions. Abdominal symptoms of nausea and/or pain were present in 3 patients. Two patients complained of darkened urine.

TABLE 2.
**Demographic data on 5 patients with thrombotic thrombocytopenic purpura.**

| Patient # | Age | Sex | Ethnicity |
|---|---|---|---|
| 1 | 28 | M | Portuguese |
| 2 | 64 | F | Japanese |
| 3 | 34 | F | Portuguese |
| 4 | 25 | M | Japanese |
| 5 | 55 | M | Japanese |

TABLE 3.
**Clinical manifestations at the time of presentation of patients with thrombotic thrombocytopenic purpura.**

| Patient # | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Fever | + | - | + | + | + |
| Petechiae | - | - | + | - | - |
| Bleeding | - | + | - | - | + |
| Abdominal Pain | - | - | + | - | + |
| Nausea | - | - | + | + | - |
| Arthralgias | + | - | - | - | - |
| Hepatomegaly | - | - | - | - | + |
| Splenomegaly | - | - | - | - | + |
| Neurologic Signs | + | + | + | - | - |
| Urine Discoloration | - | - | + | + | - |

### Laboratory Data

Admission laboratory results are shown in Table 4. The mean hemoglobin concentration in the 5 patients was 7.6 mg/dl (range 5.4-11.8 mg/dl). The mean platelet count was $39x10^9$/L (range $4\text{-}57x10^9$/L). The reticulocyte count was elevated in all patients with a mean of 7.5% (range 3.3 - 16.3%). The prothrombin time and partial thromboplastin time were all normal except in patient #5, whose values were elevated.

All patients presented with an increase in their serum LDH, the mean LDH value initially being 1294 U/L (range 714 - 1775 U/L). Of the 3 patients tested for Coomb's antibodies, all were negative. Blood urea nitrogen and creatinine were elevated in 3 patients who also had 4+ proteinuria. Two patients had positive antinuclear antibody titers. Both of these were seronegative for HIV. Of the 3 patients tested, only one (patient #5) was seropositive for HTLV-I. This was confirmed via Western blot analysis. The blood films of all patients revealed significant schistocytes and fragmented erythrocytes.

Bone marrow aspirations and biopsies were done on all 5 patients. All showed erythroid hyperplasia and increase in the absolute number of megakaryocytes.

### Treatment and outcome

All 5 patients were started on intravenous corticosteroids within 24 hours of admission. Plasmapheresis was begun early in the hospitalization period (range 1-7 days; mean 2.8 days). The outcome of therapy is shown in Table 5. In the 4 patients who survived, the mean number of days from initial plasmapheresis until the platelet count was greater than $150x10^9$/L was 6.5 (range 2-17 days), and the mean number of exchange transfusions to achieve this goal were 5 (range 2-12).

Four of the 5 patients responded dramatically to plasmapheresis, with improvement in both the platelet count and LDH. Although patient #2 showed some mild initial improvement of both parameters following plasmapheresis, she later succumbed to her disease despite intensive therapy. Her death was due to a combination of

*(Continued on page 49)* ►

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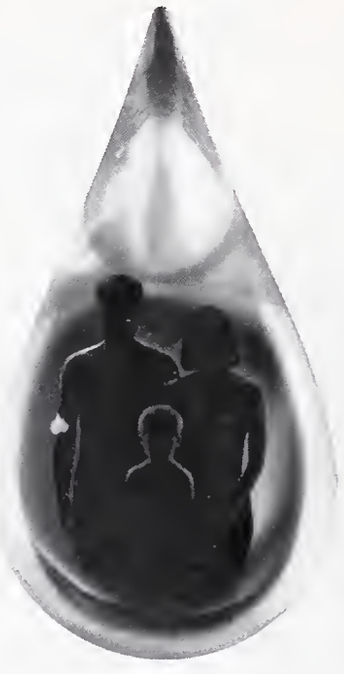
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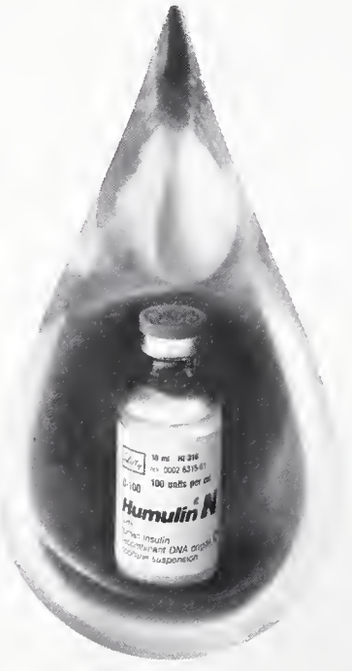
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cardiac, respiratory, and renal failure. Postmortem examination showed fibrin deposition in the blood vessels of tissues and organs throughout her body, consistent with thrombotic thrombocytopenic purpura.

Figure 1 demonstrates the response to plasmapheresis in each of the 5 patients.

## Discussion

Underlying most of the clinical manifestations of thrombotic thrombocytopenic purpura are widespread microthrombi in the small blood vessels throughout all organ systems and tissues of the body. The intravascular thrombi are composed of loose platelet aggregates that consolidate into amorphous plugs that are eventually replaced by fibrin[12]. Studies that have shown immunoglobulin and complement deposition in arterioles[13], and an association with systemic lupus erythematosis (SLE), scleroderma and Sjogren's syndrome, would suggest an underlying immunologic cause. However, despite intensive investigation, the etiology of TTP remains obscure.

Until recently, this disease was almost universally fatal. Many therapeutic modalities have been applied; however, consistent improvement has occurred as a result of using plasmapheresis and exchange transfusion[13].

In patients with clinical and laboratory parameters suggestive of TTP, a search for bacteremia should be initiated and treated. Once a diagnosis of TTP is confirmed, corticosteroid therapy can be instituted, as it was in our 5 patients. Corticosteriods of themselves have not been shown to be consistently effective in the treatment of TTP, but are thought to have an adjunctive role[14]. With the exception of patient #5, in whom plasmapheresis with exchange was initiated 1 week later, all the other patients received this mode of therapy within 3 days of admission.

**TABLE 4.**
**Admission laboratory data in 5 patients with thrombotic thrombocytopenic purpura.**

| Patient # | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Hemoglobin (mg/dl) | 5.4 | 7.9 | 11.8 | 5.8 | 7.2 |
| Hematocrit (%) | 16.2 | 23.1 | 34.0 | 15.4 | 21.3 |
| White Blood Cell Count (x10$^9$/L) | 16.2 | 23.2 | 17.1 | 13.4 | 5.3 |
| Platelet Count (x10$^9$/L) | 43 | 57 | 50 | 4 | 40 |
| Reticulocyte Count (%) | 3.3 | 6.9 | 5.9 | 5.2 | 16.3 |
| Prothrombin Time (seconds) | 13.4 | 12.6 | 13.7 | 13.0 | 14.0 |
| Partial Thromboplastin Time (seconds) | 22.8 | 25.0 | 22.6 | 31.0 | 40.0 |
| Fibrinogen (mg/dl) | 322 | NA | 419 | 313 | 280 |
| Fibrin Degradation Products (ug/ml) | 10-40 | 10-40 | 40-80 | NA | NA |
| Lactate Dehydrogenase (U/L) | 1640 | 1775 | 871 | 1470 | 714 |
| Blood Urea Nitrogen (mg/dl) | 35 | 51 | 27 | 16 | 9 |
| Creatinine (mg/dl) | 2.3 | 3.0 | 1.3 | 1.1 | 0.8 |
| Coombs Test | NA | - | NA | - | - |
| Anitinuclear Antibody | + | - | - | + | - |
| HIV Titer* | - | NA | - | NA | NA |
| HTLV V-I Titer** | NA | - | NA | - | + |
| Proteinuria | 4+ | 4+ | 4+ | 3+ | 1+ |

NA = not available
*HIV = Human Immunodeficiency Virus
**HTLV-I = Human T-Lymphotropic Virus Type I

**TABLE 5.**
**Outcome in 5 patients with thrombotic thrombocytopenic purpura.**

| Patient# | Length of hospital stay in days | Number of plasmaphereses to achieve a platelet count of >150x10$^9$/L | Total number of plasmaphereses | Follow-up |
|---|---|---|---|---|
| 1 | 15 | 3 | 5 | Remission (10 mo) |
| 2 | 10 | Not achieved | 7 | Expired |
| 3 | 13 | 2 | 9 | Remission (1 mo) |
| 4 | 9 | 2 | 2 | Remission (4 yrs) |
| 5 | 44 | 12 | 19 | Remission (6 yrs) |

Along with clinical improvement, the goal of therapy was to normalize the platelet count, i.e., greater than $150x10^9$/L, as well as to resolve the other laboratory and clinical abnormalities. As shown in Figure 1, all patients experienced an improvement in the platelet count and LDH soon after plasmapheresis was begun. This is consistent with the responses reported by other investigators[5,7].

Plasmaphereses were discontinued after achieving a platelet count of $150x10^9$/L in patients #1 and #4. In both, the platelet count remained within normal limits and the LDH showed continued improvement. Patient #3 showed similar improvement, but in this case plasmaphereses were continued for another week. During that time the platelet count remained within the normal range and the LDH continued to normalize.

Patient #2 died during treatment; however, prior to her

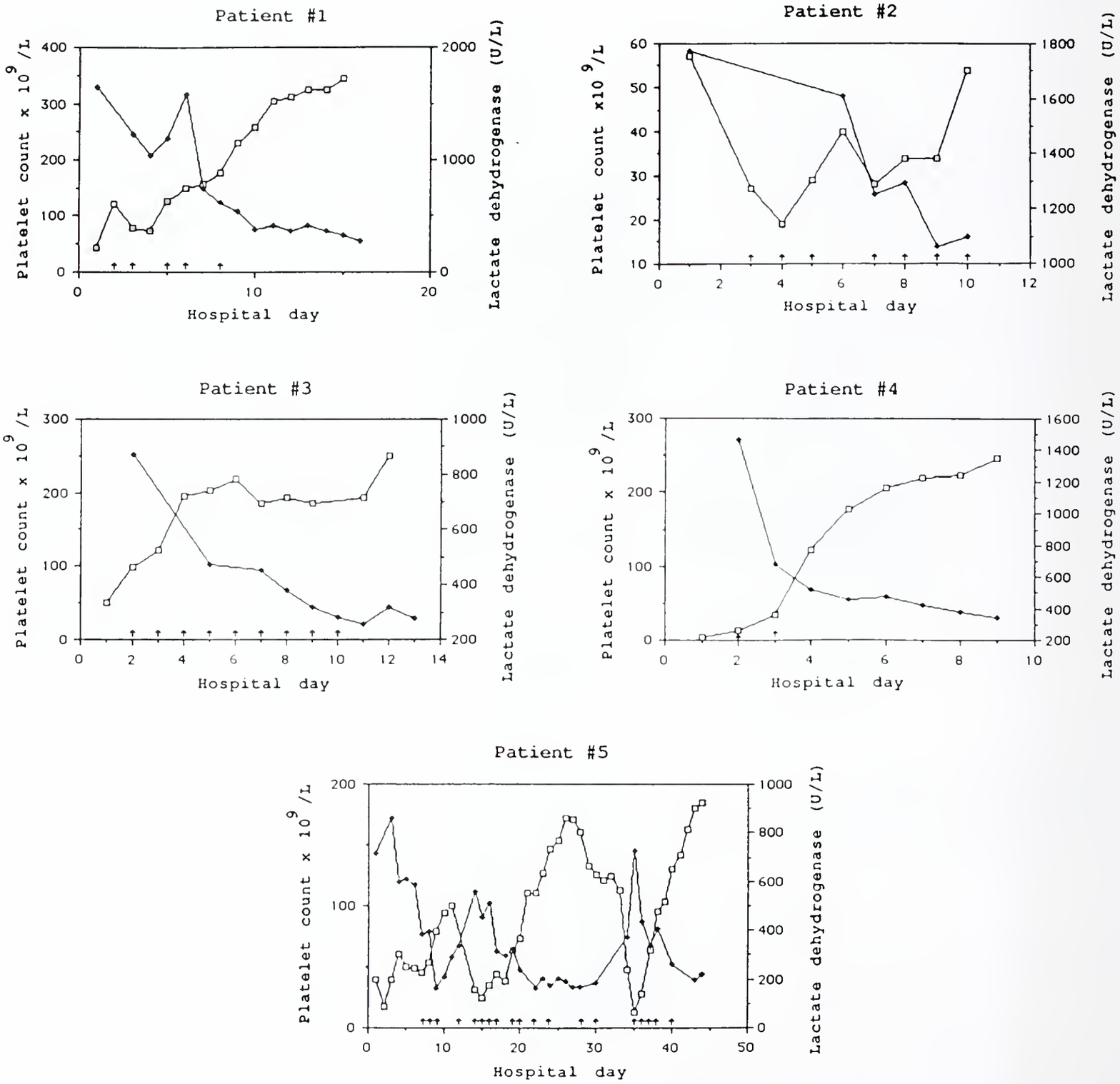



Figure 1.
Response of platelet count and serum lactate dehydrogenase to plasmapheresis. The platelet count is designated by open boxes, the lactate dehydrogenase by closed boxes, and plasmapheresis was performed as indicated by the arrows.

death a modest improvement in platelet count and LDH occurred. Whether earlier plasmapheresis would have altered the outcome remains unknown.

Patient #5 was not started on plasmapheresis until his 7th hospital day. As seen in Figure 1, this patient showed improvement after the initiation of plasmapheresis; however, on several occasions this patient required re-initiation of therapy because of a falling platelet count and a rising LDH level. Improvements in both of these parameters took place when aggressive therapy was repeated.

Patient #5 was found to be seropositive to HTLV-I (this case has been reported elsewhere[11].) As one would anticipate, a dramatic fall in the antibody titer was noted soon after the initiation of plasmapheresis (Figure 2), and these titers continued to fall during the remainder of the plasmaphereses.

Two patients tested for HIV were seronegative. Because of the increasing prevalence of HIV infection, one might anticipate seeing HIV-associated TTP more frequently in the future.

Despite the excellent results observed in 4 of our 5 cases, we are unable to project the optimal duration or extent of plasmaphereses. One investigator suggests continuing therapy for an average of 3 cycles after a platelet count of $150 \times 10^9$/L has been achieved[5]. Perhaps at this point one can then convert to an alternative day cycle. If the platelet count continues to remain stable, treatment may be discontinued.

## Conclusion

We believe that plasmapheresis with exchange transfusion is currently the treatment of choice for patients presenting with thrombotic thrombocytopenic purpura. Because of the severe nature of this disease, treatment should be initiated as soon as the diagnosis is made. It should be noted that the requirements for each patient are quite variable. Consequently, the guidelines in terms of the duration and extent of therapy that are needed to reasonably assure remission are difficult to establish. We suggest that treatment be individualized in order to gain optimal results.

Finally, relapses do occur, and recurrent thrombocytopenia should be considered an indication for the use of more aggressive therapy and/or a trial of alternative therapy. ■

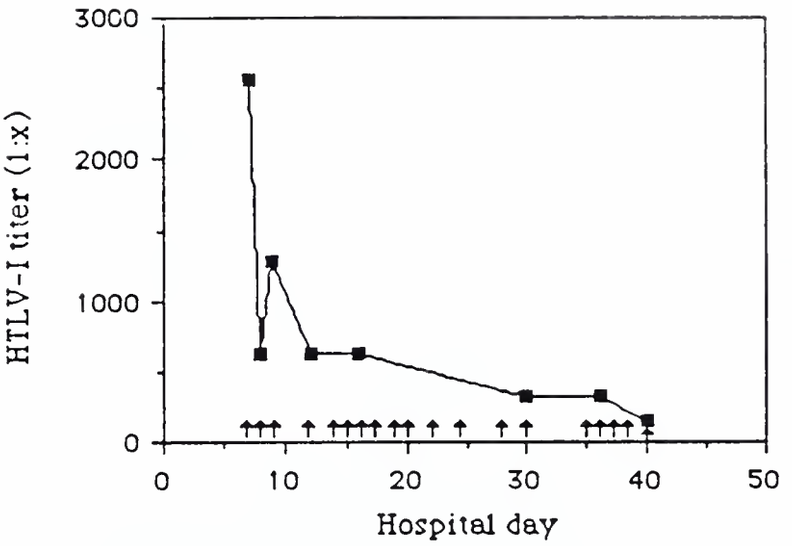



Figure 2.
Response of HTLV-I antibody titers to plasmapheresis in Patient 5. The arrows indicate when plasmapheresis was performed.


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# Epidemiology of ocean sports-related injuries in Hawaii: 'Akahele O Ke Kai'

G. Harley Hartung, PhD*
Deborah A. Goebert, MS**
Raymond M. Taniguchi, MD†
Gary A. Okamoto, MD††

*Before attempting to prevent ocean activity injuries, as well as to improve treatment strategies, more information is needed regarding the numbers of injuries that are geographic and activity specific and the identification of persons at risk for such injury. Data on 276 injuries that occurred during ocean sports activities on the islands of Oahu and Hawaii over a 10-month period are presented. The injuries were mainly related to swimming and board-surfing, although serious injuries were found for almost all types of sports activities. The majority of those injured were young adult men who were local residents. Over 10% of the injuries required hospitalization, including 4 fatalities due to drowning and 5 spinal cord injuries due to trauma or to SCUBA-related, decompression incidents. Our study identifies the need for determining an estimate of the number of persons engaging in ocean sports, establishes the need for a single reporting system for injuries, determines potential risk factors, and suggests targets for prevention.*

The fact that Hawaii is an island state with more than 750 miles of shoreline and several hundred beaches, makes ocean-related activities extremely popular. Ever since ancient times, Hawaiians used the ocean not only as a means of transportation and a source of food, but also as a recreational playground for swimming, canoeing and surfing. With increasing population in the State, increasing numbers of tourists, and the growing popularity of surfing and other ocean sports and recreational activities, there is the potential for increasing numbers of ocean-related accidents and injuries.

The medical literature contains few studies of injuries resulting from ocean-related activities; those few focus on a single activity (usually surfing) or on injuries that required hospitalization, or occurred in a specific area, or were seen at a single hospital. Allen et al.[1] studied 36 major board- and body-surfing injuries admitted to a Waikiki area hospital over a period of almost 5 years (1969-75). They found reference to cranio-spinal injuries in 12 patients and 3 cases of near-drowning, but concluded that the incidence of injuries was low, compared to some other sports. A similar study of board-surfing and body-surfing hospitalizations at a hospital serving a larger area of Oahu was made by Chang and McDanal[2] for the period 1973-77. Records of 26 board-surfing and 21 body-surfing injuries and injuries to 2 bystanders were studied. The majority of board-surfing accidents involved trauma from the board, and most of the body-surfing cases consisted of spinal injuries and dislocations of the upper extremities.

McCrerey[3] and Blattau[4] reported on a review of emergency-room records of surfing injuries treated at the only North Shore Oahu hospital in the fall, winter, and spring months of 1975-78. During this period, 294 board-surfing injuries were identified, of which 83% involved lacerations. Seventy-four percent of these were caused by contact with the board or the stabilizing fin (skeg) of the board. The same investigators also studied body-surfing injuries for the same months of 1976-78 and found 31 cases, the majority of which were shoulder (39%) or head (26%) injuries.

An analysis of 155 dysbarism cases treated by the U.S. Navy's hyperbaric chambers at Pearl Harbor was reported by Kizer[5]. Fifty-six percent of this number were sport-diving, while the others were consequent to a variety of commercial, military and other work tasks. More than a third of all cases and almost two-thirds of the serious cases in that study had some initial spinal cord involvement.

The purpose of our study was to determine the extent of the problem of ocean sport-related injuries requiring medical attention in Hawaii. In addition, this study attempted to identify and describe factors associated with a high risk for injuries (activity, age, occupation, resident status, etc.) so that appropriate preventive measures can be designed to help control the problem. This information ►

* Professor of Physiology, University of Hawaii School of Medicine and Pacific Basin Rehabilitation Research and Training Center.
**Research Specialist, Pacific Basin Rehabilitation Research and Training Center.
†Clinical Associate Professor, University of Hawaii School of Medicine.
††Associate Professor, University of Hawaii School of Medicine and Pacific Basin Rehabilitation Research and Training Center.

Reprint Requests to:
G. Harley Hartung, PhD
Pacific Basin RRTC
226 N. Kaukini, Room 233
Honolulu, HI 96817

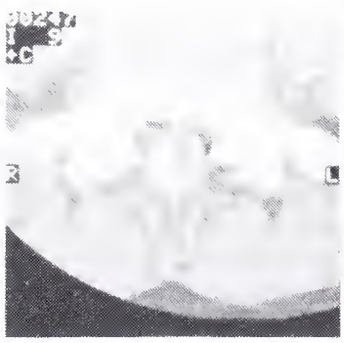
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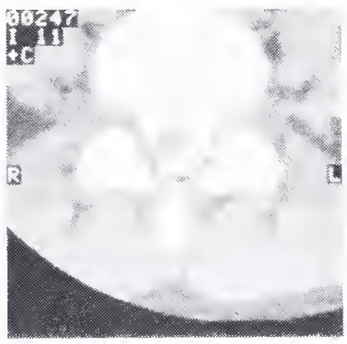
# MRI CASE OF THE MONTH

## MYXOPAPILLARY EPENDYMOMA

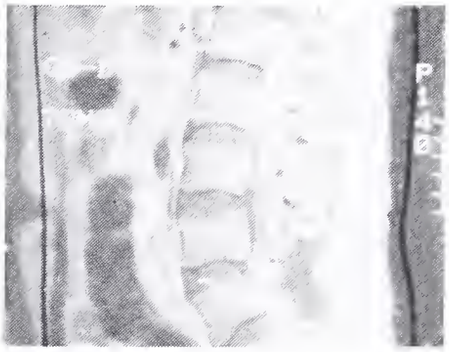
**CLINICAL HISTORY:** Forty-one-year old male initially presenting with leg weakness. A plain CT scan of the lumbar spine (not shown) failed to reveal any abnormality. Further work up with a myelogram and CT/myelogram revealed multiple masses in the lumbar spinal canal with a block to cranial flow of contrast at L2-3 by a large mass. The spine above this level could not be evaluated because of the block.







An MRI study of the spine with gadolinium was performed demonstrating a predominant mass at L1-L2 with multiple bright enhancing lesions throughout the thoracic and lumbar regions.






**DIAGNOSIS:** Myxopapillary ependymoma (surgically proven) with metastatic deposits throughout the spinal canal.

**COMMENT:** The MRI study with gadolinium offered a safe, efficient, more sensitive and complete diagnostic evaluation than was possible with a plain CT scan, a myelogram and CT/myelogram study.

*These images were produced by MRI Center of the Pacific using their 1.5 Tesla GE Scanner.*

Magnetic Resonance Imaging
Center of the Pacific

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A partnership of Kuakini Medical Development Corp., Permanente Services of Hawaii, Inc.; Queen's Health Technologies, Inc.; Straub Imaging Services, Inc.; St Francis Healthcare Technologies, Inc

can also be important for use in the planning of emergency, trauma and rehabilitation services.

### Methods

Data for this study were gathered retrospectively from 13 cooperating hospitals or acute-care clinics and the Hyperbaric Treatment Center on the islands of Oahu and Hawaii. Emergency-room personnel obtained the informed consent of the patient and collected the details of the accident. If there were questions, the injured person was contacted directly. When the emergency-room was unable to participate in the study, data were obtained from the medical records department and were therefore limited to the information contained in the medical record. In the case of those injuries, the exact cause or mechanism, and the wind and wave conditions at the time of occurrence were missing sometimes.

The data presented were collected over a 10-month period from April 1988 through January 1989. Two hundred seventy-six cases were included in the analysis, representing only those cases reported to the investigators by the cooperating agencies (all major hospitals on Oahu and Hawaii participated). The study was reviewed by and received the approval of the Committee on Human Studies of the University of Hawaii at Manoa and, when appropriate, by the hospital institutional review committees.

Data collected included age, sex, occupation, address (zip code), resident status (local resident, out-of-state tourist, in-state tourist, foreign tourist, military, etc.), date of accident, day of week, and time. Also reported were the location of the accident (specific beach or geographic landmark), type of activity (see Table 1), description of the injury and the anatomic locus. Other information included whether an X-ray was taken, whether the patient was admitted to the hospital, and alcohol or drug use prior to the accident, if known. The cause of the injury (wave, reef, board, wind-related, etc.) and the mechanism of injury were noted, as well as the wind speed, wave height, and level of experience in the specific activity.

Analysis of the data was accomplished by descriptive statistics, such as frequency distributions and cross-tabulations, using the SPSS-PC statistical package.

**TABLE 1**
**Injuries Classified According to Activity**

| Activity | Number | Percent |
|---|---|---|
| Board surfing | 74 | 27.7 |
| Boogie boarding | 19 | 7.1 |
| Body surfing | 20 | 7.5 |
| Wind surfing | 6 | 2.2 |
| Swimming | 82 | 30.7 |
| Boating | 7 | 2.6 |
| Diving (into water) | 6 | 2.2 |
| SCUBA diving | 27 | 10.1 |
| Snorkeling | 6 | 2.2 |
| Fishing | 8 | 3.0 |
| Other | 12 | 4.1 |
| Total | 267 | 100.0 |

**TABLE 2**
**Injuries Classified by Primary Diagnosis**

| Diagnosisy | Number | Percent |
|---|---|---|
| Laceration/tear | 79 | 28.6 |
| Sting | 65 | 24.3 |
| Decompression sickness | 20 | 7.5 |
| Abrasion/contusion | 15 | 5.6 |
| Fracture | 16 | 6.0 |
| Near drowning | 12 | 4.5 |
| Dislocation | 11 | 4.1 |
| Puncture | 10 | 2.9 |
| Strain | 8 | 3.0 |
| Sprain | 9 | 3.4 |
| Drowning (expired) | 4 | 1.5 |
| Concussion | 4 | 1.5 |
| Internal injuries | 4 | 1.5 |
| Arterial gas embolism | 2 | 0.7 |
| Other | 6 | 2.3 |
| Total | 268 | 100.0 |

### Results

The total number of injuries reported was 276; 31 of these were serious enough to be admitted to a hospital (12.3% of the cases with complete data on the item). Seventy-seven percent of the injuries occurred in males; 79% occurred in persons between the ages of 10 and 39, 7% in those 40-59 and 8% in children under 10. Approximately 66% of the reported injuries were suffered by island residents, 25% by Mainland and foreign tourists, the remainder by military residents and tourists from other parts of the State. Almost 43% of the injuries occurred on Saturday or Sunday, with 62% occurring between the hours of 6 AM and 2 PM and another 16% between 2 and 6 PM.

### Activities

Table 1 shows the cases classified by activity at the time of injury. Swimming and board-surfing accounted for 30% and 27% of the injuries respectively; body (boogie) board surfing and body-surfing each accounting for about 7% of the injuries.

Cross tabulation analysis showed that board-surfing was the activity that accounted for the majority of lacerations (61%) and that lacerations occurred in 67% of all board-surfing injuries. Other diagnoses accounting for 4-7% of the board-surfing injuries (followed by the percentage of the total for all activities) include: fractures (31%), internal injuries (75%), concussions (100%) and sprains (37.5%).

Analysis of the swimming injuries revealed a wide variety of diagnoses, ranging from a large number of man-o-war stings to fractures and drowning. Stings accounted for 55% of the swimming injuries (78% of the stings occurred during swimming). Swimming was the activity in 17% of all lacerations, accounting for 16% of the swimming injuries. Swimming was the activity associated with half of the near-drowning incidents, and in one death

from drowning. Three fractures and 3 dislocations also occurred while swimming.

The majority of injuries in SCUBA-diving were related to decompression incidents. Decompression sickness was the diagnosis in 74% of the cases; arterial gas embolism was found in 7.5%. All of these cases were treated with recompression in the Honolulu chamber. Severe residual effects of dysbarism were seen in 2 cases and mild to minor effects in 5 cases. Two of the cases required admission to the Rehabilitation Hospital of the Pacific for follow-up therapy.

Although only 19 body-surfing injuries were identified, several serious consequences were associated with this activity. One death from drowning and 1 near-drowning occurred. In addition, 2 fractures, and 1 dislocation of the cervical spine and 3 shoulder dislocations were reported.

Snorkeling accounted for only 6 of the reported injuries, but 4 of these (67%) were near-drownings. This amounted to 36% of the total number of near-drowning incidents recorded.

When the injuries were categorized by age and activity, 43% of the board-surfing injuries occurred in the 20-29-year age group; another 31% occurred in the 10-19 group, and 24% in the 30-39 group. Board-surfing was the major activity associated with injury in 10- to 39-year-olds. Swimming was the major activity associated with injury in 0- to 9-year-olds (85%) and also in the 40-49 group (28%), the 50-59 group (29%), and the 60 and older group (62%).

**Type of injury**

Table 2 shows the cases classified by primary injury diagnosis. The most common injuries were lacerations, which accounted for 28% of all injuries, and stings (man-o-war and other types), which accounted for 24%. Decompression sickness accounted for 7.2% of the injuries and fractures for 6%. The most frequently injured body parts were the head and face (19%), the ankle/foot/toe (18%), and the arm/hand/finger (10%).

Results included 4 deaths from drowning, 12 near-drownings, 16 fractures, 11 dislocations and 4 concussions. One additional death due to cardiac arrest occurred following SCUBA-diving, after sustaining an arterial gas embolism. Three spinal injuries and 2 SCUBA-diving, decompression incidents resulted in at least temporary paraplegia or quadriplegia. It is likely that at least 2 of these will have permanent disability. All 3 of the spinal injuries involved fractures or dislocations of the cervical vertebrae and all occurred while body-surfing.

Hospital admissions, an indication of the severity of the injury, were tabulated for each major sports activity. Four of 6 (67%) snorkeling incidents resulted in hospitalization, whereas 8% of the board-surfing injuries required hospital admission. Only 5% of the swimming injuries resulted in admission, as compared to 32% of the body-surfing injuries. Two of the 7 (29%) boating injuries required hospital admission, as did 6 of 22 (27%) of the decompression diving incidents.

**Location**

On Oahu, 35% of the injuries occurred between Makapuu Point and Kaneohe Bay, 31% at locations between Keehi Lagoon and Black Point. Another 10% occurred between Kahuku and Waimea Bay and 13% between Black Point and Makapuu Point.

Types of injuries reported at various locations on Oahu are presented in Table 3. The windward coast from Makapuu Point to Kaneohe Bay was the location where most man-o-war stings occurred, but some other more serious injuries were incurred there also. The area from Keehi Lagoon to Black Point, which includes Waikiki and Ala Moana beaches and the Diamond Head surfing areas, showed the widest variety of injury types, including 100% of the concussions, 32% of the lacerations, 27% of the fractures and 28% of the sprains and strains. Also this area was the location for 1 drowning and 2 near-drownings, 2 internal injuries and 1 crushing injury.

Other areas having significant numbers of injuries were the North Shore from Kahuku to Waimea Bay and the area from Black Point to Makapuu Point, which includes Hanauma Bay and Sandy Beach.

Sixty (22%) of the injuries occurred on the Big Island of Hawaii.

**TABLE 3**
**Ocean Sport Injuries on Oahu by Location**

| Location* | Diagnosis** | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | Total |
| Makapuu Pt. | 2 | 4 | | 1 | | | 3 | 2 | 3 | | | 1 | 41 | | 57 |
| Kaneohe Bay | | 1 | | | | | 1 | | 1 | 3 | | | | | 6 |
| Kahuku | | 11 | 1 | | | | | | | | | 2 | 3 | | 17 |
| Waimea Bay | | 1 | | | | | | 1 | | 1 | | 1 | | | 4 |
| Kaena Pt. | | | | | | | | 1 | | 1 | | 1 | | | 3 |
| Waianae | 1 | 1 | | | | | | 1 | | | | 1 | | 1 | 5 |
| Barbers Pt. | | 2 | | | | | | | | | | 1 | | | 3 |
| Keehi Lagoon | 6 | 24 | 1 | 1 | 4 | 1 | 2 | 4 | | 4 | 2 | | 1 | | 50 |
| Black Pt. | 1 | 6 | 2 | 1 | | | 4 | 1 | 4 | 2 | | 2 | | | 23 |

*From each location to the next on the list

**1 abrasion/contusion, 2 laceration/tear, 3 puncture, 4 drowning, 5 concussion, 6 crushing, 7 near drowning, 8 sprain/strain, 9 dislocation, 10 fracture, 11 internal injury, 12 decompression injury, 13 sting, 14 other

►

## Discussion

At present, there is no formal reporting requirement for ocean-sport injuries; however, there are several agencies that collect such data. Ocean-activity injury data are collected (although often not readily available) by: The City and County Parks and Recreation Departments; the Emergency Medical Services Department; the Fire Departments and the Hyperbaric Treatment Center. Our study provides data on the acute treatment component of the problem, which has been missing, and combines that with data from the Hyperbaric Treatment Center.

The scattered sources of data tend to preclude the routine compilation of accurate data pertaining to the extent and severity of ocean-activity injuries. On beaches where lifeguards are maintained by the City and County, the lifeguard may render first aid for minor injuries and record it. On unguarded beaches, there is no such data available, unless the Fire Department is called for rescue or emergency resuscitation. In cases of more severe injury, the victim may be taken by ambulance or by private vehicle to a hospital emergency-room or acute-care clinic. In many of the SCUBA-diving incidents, the victim is transported directly to the Hyperbaric Treatment Center in Honolulu for treatment of bends and related conditions. A single reporting point for ocean sports-related injuries is needed in order to enable identification of system gaps, service needs and prevention targets.

The types and percentages of injuries found in the present study are similar to those found in the studies conducted 10-15 years ago, when specific activities are compared. The percentages of overall occurrence of most injury types are lower in the present study due to the wider range of activities included. For example, Blattau[4] found that 83% of 294 board-surfing injuries were lacerations, whereas we found that 68% of 74 board-surfing injuries were lacerations; this is not a statistically significant difference. However, we found that lacerations comprised only 29% of the injuries when all activities were considered. Injuries to the head were also similar, when data on surfing were compared, 45% in the present study versus 41% in an earlier study[4]. When all ocean sports are considered in our study, only 18% of the injuries were sustained to the head. These examples confirm the activity-specific nature of these types of injuries.

The incidence of ocean-sports injuries in Hawaii is not known. A true incidence of injuries during ocean sports cannot be easily determined because the total number of persons at risk, those engaged in each specific sports activity, is difficult to determine. This number is needed as the denominator for the calculation of an incidence rate that could be compared with incidences of injury in other activities. Our study, however, provides insight into the scope of the problem and presents needed data on injuries associated with the entire spectrum of ocean-sports activities.

The present data confirm earlier findings that approximately 40% of the ocean sport/surfing injuries occur on weekend days, and that most of the serious injuries are incurred by males[1-4]. The fact that only 25% of all injuries involved tourists was somewhat unexpected, since they have been thought by many to be relatively unaware of the dangers involved in certain ocean activities. The island residents, who accounted for 66% of the injuries, have been assumed to be much more knowledgeable about the ocean and its dangers, therefore less likely to get hurt.

Our study provides a much broader insight into the injury problem of ocean sports and recreational activities than was available from other published sources. This insight has relevance to appropriate targeting of injury-prevention measures.

Based on our identification of groups that are at risk for injury, the following points for prevention of ocean-sports injuries in Hawaii are suggested: 1) Improve warning signs at identified dangerous areas or during dangerous conditions; 2) place temporary signs on beaches warning of man-o-war infestations and provide readily available information concerning the usual treatment of man-o-war stings (meat tenderizer, etc.) in order to reduce unnecessary trips to an emergency medical facility; 3) target preventive efforts to specific age-related, sports activity groups (i.e., board-surfing by 20- to 29-year-old men; 4) education efforts need to be designed for and presented to both tourists and local residents; and 5) swimming and water safety instruction should be required for all children in Hawaii as a part of the school curriculum.

Taniguchi et al.[6] have suggested a number of other preventive measures specifically for board-surfing injuries, which centered around the use of lightweight helmets and redesigning the board to round off the nose or make it less rigid. Methods such as these also need to be explored.

Ocean sports and recreational activities in Hawaii account for a large number of serious or potentially serious injuries as documented by our study. Continuing efforts should be made to follow up on the study of severely injured, ocean-sports cases, with emphasis on acute treatment, incidence of residual disabilities, rehabilitation outcomes and development of prevention strategies. ■

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# PEP: Peer education in health for student empowerment

Edward Margulies, MD, MPH*
Kenneth Ito, MEd**

*In an effort to assist teens to make healthier decisions and to support the Department of Education's health education program, the Departments of Health (DOH) and Education (DOE) have formed a partnership to design and implement a Peer Education Program (PEP). The initial funding for the program was provided through that partnership and the AIDS Omnibus bill.*

**Introduction**

Today's society is marked by social unrest, a changing value system and several health issues that call for attention. The influence that peers have on each other is a well-known axiom in psychosocial as well as educational circles. Therefore, PEP was conceived to engage students in the educational process through their peers. Some of the health-related activities that are implemented through PEP include: Classroom presentations and activities that deal with a variety of health and social issues; campus assemblies and health promotion activities; and, community networking using valuable resources such as parents, social groups and other health agencies and organizations.

The program's long-term goals for developing a healthy lifestyle include developing an enhanced self-esteem, promoting responsible living and shaping positive growth experiences.

Peer education, by one's peers, one's fellow students, is an idea that for both health and social reasons has become a medium that needs to be in our schools. In Hawaii's PEP is taking a lead nationally in this regard.

**The program**

Beginning in 1988, PEP was introduced by the state Department of Health into a growing number of public schools in order to address and to alleviate our society's current crisis in poor attitudes and anti-social behavior through a new and unique method: To use "peer pressure" to educate and to modify attitudes and behavior in a positive direction. The program, initially a pilot program in 7 schools statewide, and currently in 18 schools, is forecast to be in all the high schools plus several intermediate and K-12 schools in 1990. It is expanding rapidly because of an apparent real need and its preliminary acknowledged success.

PEP is also proving itself to be an effective means of promoting good health habits, thus preventing disease and injury. In those schools that have had the most behavioral and health problems, where crises have followed crises during the past 10 years, PEP has helped resolve these serious but preventable problems. All our schools today are faced with the stark reality that health issues, e.g., substance abuse, teen pregnancy, suicide, sexually transmitted diseases and AIDS pose major challenges. Each year we see an increasing number of students succumbing to the deleterious effects in our "society-at-risk," despite the fact the enormous danger of such risk-taking is supposedly well known and certainly well publicized. Consequently, it is apparent that knowledge alone has little impact on students' attitudes and behaviors any more than it has on adults. New ways of teaching, thinking, interrelating, and reacting are needed. The peer education concept was conceived as a means toward that end: To empower youth to have an impact on fellow students through positive peer pressure.

The immediate need is to redefine the core curriculum of school health education as it exists heretofore, to make it go beyond just providing information, to be updated and made to come alive, so that students' attitudes and behaviors are effectively touched and energized by new methods of information sharing. The National School Health Education Study defined health as "A quality of life involving social interaction and an interdependence among the individual's physical well-being, his or her mental and emotional reactions, and the social complex in which he or she exists." Health education needs, therefore, to be geared toward improving the "quality" of health of our children. Given the current, common practices that lead to ill health, it is indeed imperative that we empower children with the ability, tools and authority to make decisions that will result in their better mental and physical health to last a lifetime.

Based on current data, health education needs to be more than just transference of knowledge. Health education must include additional components: The develop-

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* Chief, School Health Services Branch, Hawaii State Department of Health
** Director, Peer Education Program, State Health Services Branch, Hawaii State Department of Health

ment of proper attitudes, awareness, behavior and skills. It is only by integrating these components into the whole, that we can provide children with the essentials conducive to good health. The end point will be their assumption of responsibility for their own good health.

PEP utilizes this holistic concept of health education by actually engaging students as teachers to their peers, getting students to participate by educating each other. It is a program intended to focus on preventing problems associated with teen pregnancy, substance abuse, sexually transmitted diseases, AIDS and suicide. A nationwide study of 143 adolescent drug-prevention programs found that peer programs, using peer pressure positively, had a significantly greater effect on outcome as measured by knowledge, attitudes, less use of drugs and better behavior, than any other type of prevention program. PEP capitalizes on this persuasion, empowering youth to have an impact on fellow students in a positive way.

The process is straightforward and simple, using the natural social lines of communication and interaction that are found in all communities. Students who have the potential for being peer educators, who exhibit natural leadership, and who have skills in helping and an interest in the program, can contact or are contacted by their school's Peer Education Coordinator. These students, self selected or otherwise, can come from many different segments, groups or cliques within the student body. Honors students, athletes, social butterflies, former or reforming drug abusers, teenage mothers, "gang" leaders and others are all welcome if they have the desire to help themselves and others, a basic criterion.

Those selected as promising peer educator candidates will receive 30 hours of training in communication skills, decision-making, problem-solving skills, knowledge of major health issues, and how to refer to school and community resources in health matters as part of special courses for which credit is given. Those others who are not initially selected as peer educators, perhaps because of limited space, too many applicants or sometimes a perceived lack of sufficient maturity, are nevertheless invited to participate in PEP activities. This encourages personal development and growth. It keeps a two-way line of communication open, as well as maintains contact and the possibility for future contribution. The Peer Educators, once properly prepared, contribute and interact in a variety of roles within the school including, but not limited to, class presentations, one-on-one sessions, in leading support groups, rap groups or Ho'opono'pono and organizing school-wide activities geared toward good health.

The program's core theme is to empower the students to educate and help themselves, starting with the Peer Educators, and essentially through them spreading exponentially to the whole student body. Both the leadership and the direction of the program are provided by those Peer Educators, under the direction and guidance of the "off-ratio" faculty member who is the school's Peer Education Coordinator. This coordinator is a full-time employee of the DOE, but supervised and paid by both the DOH and the DOE. Thus, the program is student-centered but is directed by a totally cooperative, collaborative effort between the two departments. This rather unique student/DOE/DOH relationship enables PEP to meet what students feel are their needs (not simply what adults perceive to be, or assume is their need and consequently impose upon them). This fully and effectively utilizes the DOH's technical expertise as well as the DOE's educational expertise.

As was mentioned above, PEP's broad, long-term goals are the enhancement of self-esteem and the promotion of a healthy lifestyle. The concept of enhancing self-esteem is critical to the empowerment of all youth; the process begins with an awareness of self and the ability to see all the good that lies within oneself. Some characteristics generally found in teenagers with high self-esteem are the ability and willingness to act independently, to assume responsibility, to tolerate frustration, to believe oneself capable of influencing others, to exhibit a broad range of emotions and feelings comfortably, and to be proud of one's accomplishments. The effect of these positive characteristics on being able to resist negative peer pressure is obvious. The development of positive role models and decision-making for good health is contagious.

The first year's experience and evaluation of PEP taught us many lessons and demonstrated many things. Most particularly, it showed us that students want to be peer educators and thereby contribute something of themselves to their classmates and their school. They can effectively reach students whereas teachers or parents have not succeeded. By sharing the same challenges and struggles, language and cultural "teenagerism," defeats and triumphs, fears and successes, these students can have a favorable impact on other students. Their "educational" interventions are thus more readily received and accepted. This increasing self-awareness that is generated by this means catalyzes positive attitudes and changes behavior by enabling the recipient to steer a proper course under his or her own power.

## Conclusion

As for the larger picture, in the future, the Peer Education Program, as part of a comprehensive promotion of good health habits in the schools, envisions a shift away from the paradigm in which "education" and "health" have been separated in the past. The program was conceived and is dedicated to providing a system that will replace our traditional concept of doling out information alone. Instead we see education as enabling the "whole" person to reach an active, practical fulfillment. Good health has generally been equated with an absence of "symptoms." It is time now to create in our schools a vision of being healthy as meaning being able to function to one's full potential in all the possibilities that life holds for growth, with all the variables that must inter-connect to make it full and complete. Here again, PEP is working within the whole social system, addressing both personal and community development in the three areas of health,

education and economics as a synergistic, symbiotic whole.

The Peer Education Program is only 18 months old, but we have glimpsed its tremendous potential impact. Its goal is to continue to be, as the students have stated, ". . . a program that cares where no one else does." ■

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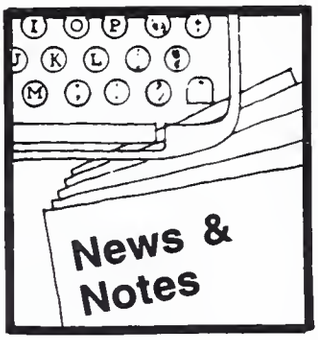
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## Life in These Parts...

A 20-year-old immigrant lad tested positive to tuberculin and his chest x-ray was negative. Hilo PHN Helen Shintaku had tried several times to start him on INH prophylaxis...The mother worked at a health agency so, it was assumed, she would better understand the necessity for the program...Helen called the mother on the phone: "Mrs. –, your son tested tuberculin positive and we feel he needs prophylaxis..." "Oh, sure, I understand...you mean he needs to use a condom..." Poor Helen felt trapped...(As told by Patsy Matsuura, our Hilo PHN...)

"Among Cyrus W. Loo's many talents is the distinction of being the author of a song included in a country music album. He composed 'Dream of Waikiki,' the first song in the Iris Record Album, 'Let's Go Country.'" (Cyrus is a dermatologist, acupuncturist who uses handwriting analysis in his practice...) (From Larry Ing's "Ramblin thru Chinatown").

The AMA House of Delegates meeting in Honolulu approved an amended resolution endorsing a system to notify unsuspecting sexual or needle-sharing partners of the risk of contracting HIV...The House named substance abuse its top health priority and resisted an attempt to remove tobacco from its substance abuse resolution (which also endorses the routine screening program of all pregnant women and women of childbearing age...)

The 56 members of the Aloha Medical Mission left Hawaii Nov. 24 for its annual visit to the Philippines...The physicians saw 5,000 patients and performed nearly 500 surgeries at two hospitals in Cebu before the Dec. 1 attempt to overthrow the Aquino government...Thirty medical workers and their families returned by Dec. 8 while 26 members, including mission president Ramon Sy, remained in Cebu City...Ophthalmologist Jorge Camara reported the mission was never in imminent danger once they left Mactan Island (which was occupied by rebel troops). Plastic surgeon Don Parsa said, "For five days we were under incredible tension, knowing we were sitting on a time bomb." But they all plan to return next year...Don has six patients with harelips who missed their chance for corrective surgery...

*AMA Bill of Rights* (drafted for Delegates Meeting in Honolulu)...The AMA Council of Ethical and Judicial Affairs presented a "Bill of Rights" wherein patients will have a right to have care from attentive, courteous physicians who are open about their choices for treatment...The bill includes a patient's right to essential health care regardless of ability to pay... "The physicians have a responsibility to provide some uncompensated care to the indigent...

*Ombudsman*...The Peer Review Organization of HMSA has been selected as "Ombudsman" to review problems of Medicare patients in hospitals, outpatient surgical programs, nursing homes or home health programs...Problems should be written to HMSA, P.O. Box 360, Honolulu, HI 96808 and for questions, call 944-3586...Sandy Wells, director, says "The main thing is to make sure the patient is not dismissed too soon and that the patients are getting the care needed."

The Sterile Needle Exchange Coalition is trying to convince the public and the legislators that if junkies have access to clean needles, Hawaii will be a healthier, safer place. The Coalition estimates that there are as many as 12,000 i.v. drug users in Hawaii and that 14% of those who test positive for AIDS at anonymous screening centers are i.v. drug users...Marion Melish at Kapiolani Medical Center believes such a program can prevent the eruption of AIDS among children which has occured in other cities. "In every city, it's gone from a very small number to a substantial number in about three years...In Boston in 1985, only a few babies had AIDS...In 1987, there were 40 and this year, 200 small children are sick with AIDS..."

## Professional Moves

In December, ophthalmologist Stephen Gee left Kaiser and joined the Faulkner Institute for Eye Care and Surgery at its satellite clinic in Mililani Town; orthopod Morris Mitsunaga joined the Hawaii Bone and Joint Clinic at 1520 Liliha, Ste. 602; and OB-Gyn Florentino Alabanza joined the Kalihi Family Medical Clinic in the Kalihi Shopping Center.

Blake Waterhouse, Madison, Wisconsin internist, will be president, CEO of Straub in March when William Montgomery steps down. Blake is the first non-Straub physician to be chosen president in Straub's 70-year history...Straub has its 160-bed King Street Clinic and Hospital and eight satellites on Oahu served by 150 physicians and 1,800 full- and part-time employees...

## Miscellany

A flea and a fly were in a flue
And did not know what to do...
Let's flee said the fly
Let's fly said the flea
And they both flew out thru
A flaw in the flue...
(Contributed by Harvey Peltz, our favorite ICI rep)

## Honored, Elected & Appointed

Ralph Beddow, chief of medicine and head of endocrinology was honored by the Straub Foundation with the 1989 Guy Champion and John C. Milnor Professional Activities Award. Straub endocrinologist David Fitz-Patrick was awarded the Excellence in Research Award for his work in gestational diabetes...

Richard Kekuni Blaisdell, professor of medicine, was named the 1989 Physician of the Year at the annual HMA meeting at The Westin Maui. Kekuni has been an inspiration for young people

►

# Our First Report Card.

Recently, *Automobile Magazine* assembled five of the world's newest luxury sedans. For four days, the editors evaluated this high-performance quintet on such critical matters as ride, handling, comfort and value.

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| RIDE | 1 | 5 | 5 | 10 | 5 |
| HANDLING | 9 | 7 | 6 | 8 | 6 |
| NVH (Quietness) | 1 | 6 | 6 | 14 | 6 |
| EXTERIOR | 4 | 9 | 4 | 7 | 4 |
| INTERIOR | 3 | 7 | 5 | 7 | 5 |
| COMFORT | 2 | 5 | 7 | 9 | 5 |
| ENTHUSIAST'S CAR | 9 | 10 | 5 | 7 | 5 |
| BEST VALUE | 3 | 4 | 5 | 9 | 3 |
| **TOTAL** | **40** | **64** | **63** | **90** | **43** |

*Subjective scoring reprinted from Automobile Magazine, Nov. 1989. A total of 300 points were allocated among the editors and spent freely as each saw fit.*



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## NEWS AND NOTES *(Continued)*

and native Hawaiians to study medicine; he has been an active voice for native Hawaiians and is acting director of the UH Hawaiian Studies Center. Kekuni is also president of E Ola Mau, an association of native Hawaiian health care professionals and is a member of many other organizations of Hawaiian affairs and medical care...

Larry Schlesinger was elected to the American Society of Plastic and Reconstructive Surgeons, Inc...

### Hors de Combat

Commentary from panel members on medical malpractice during the HMA annual meeting (as extracted from Jill Engledow's coverage in the *Maui News*).

Honolulu attorney David Schutter says, "When I look in the mirror, I don't see what you people see–I see an avenging angel."

Maui ophthalmologist Russell Stodd retorted, "Instead of an avenging angel, I see a buzzard circling overhead."

Russell feels the present system for dealing with malpractice works neither for the doctor nor the patient. He would rather go to court than pay an out of court settlement if he thinks he did no wrong...Meanwhile, the patient receives very little of what the insurance company pays in a settlement...

Moderator S.Y. Tan (physician-attorney) pointed out that the patient often must wait for years and is likely to collect only 28 cents of every dollar awarded with 72 cents going to lawyers and expert consultants and other expenses of an "incredibly inefficient system."

Schutter claims, "Doctors enter the courtroom with a halo which gives them a tremendous advantage with the jury over the less popular personal injury lawyer...Big verdicts against physicians come about "when the jury gets mad at the doctor's conduct or lack of integrity..."

### Sportsmen

The First Annual Summit-CIBA Geigy golf tournament was held on Sunday, Dec. 3 at 7 AM at Waialae CC. The tournament was the joint effort of Tommy Chang, his Waialae CC cohorts and Summit rep Electra Sam...When the morning dew had finally disappeared from the greens, Dick Ho was in first place with a net 69, C. Cachero and H. Yokoyama tied with net 70s and James Tajima was in third...

The 17th Honolulu Marathon had 91 entries under age 18, including 33 boys and 8 girls between 7 and 12. President Jim Barahal admits there has been a controversy about limiting the age of competitors..."Some favor having nobody under 18...If I had a child, I would not permit him to run in a marathon..." But Jim opposes raising the age minimum because he doesn't believe he has a right to tell any parent what to do. "There's no difference between a kid running a marathon and practicing gymnastics or figure skating six hours a day...But I would say a parent should make sure the kid really wants to do it. Little league football is a lot more harmful, but no one squawks about that."

### Physicians Speak Up

Psychiatrist Douglas Cooper wrote a controversial column in the December issue of *Honolulu News* entitled "Doctors May Be Hazardous to Your Health–Part II." "Last month, in a somewhat uncharacteristic manner, I wrote an article highly

critical of organized medicine in the US. I stated that I would never go to a doctor unless I had a broken bone that needed some mechanical work or an obstruction that needed opening on an emergency basis...I stated that pills are either ineffective or capable of great harm in the long run...I suggested that organized medicine and the pharmaceutical industry have created a medical-pharmaceutical complex that is akin to the military-industrial complex people used to talk about...Though many physicians are certainly well intentioned, the end product of participation in organized medicine is to perpetuate a warped, destructive system, and perhaps unconsciously, to maintain their superior status and income...But if you are already at the point where you have symptoms and are putting your health in the hands of a doctor, you've already missed the boat of prevention...

"Prevention of illness is a deep and complex subject that involves obvious elements such as diet, exercise, moderation, etc. But also unconscious elements in ourselves from childhood that almost have to be brought to light and a life long commitment to working on yourself emotionally and physically...I would suggest that psychological factors have more to do with your state of health than whether you eat health food or exercise daily..."

Ken Perske, MD must have read Douglas Cooper's "Doctors May Be Hazardous to Your Health–Part I" because he was furious: "I was appalled to read Dr. Douglas Cooper's article in the November issue...I hope you receive letters from many people (patients and health care providers) who are likewise disgusted...The only words with a hint of truth to them are these expressing the fact that patients should be responsible for their own bodies...I am honored to be in the medical professionand grateful to my parents for giving me such an opportunity...I know most of my colleagues feel the same...Doctors are not in general 'arrogant, self-serving and obsessive individuals' as stated in the article. The only paranoia I see is in the article. It is true physicians are being forced to practice legal defensive medicine because of external legal and insurance carrier pressure...These forces have placed doctors in an adversarial role, not an advocacy role for their patients...Nonetheless, the American public generally receives excellent medical care which is a direct result of people interested in helping people and from our quickly advancing technology. There are problems with the medical profession and we are trying to deal with them internally as much as possible. Unfortunately, one of the problems is an attitude such as expressed in the letter by Dr. Cooper..."

## Oncology Conference

A 67-year-old oriental man with symptoms of prostatism was found to have an enlarged prostate with two nodules..CT scan was negative for bone mets...A needle biopsy showed adeno CA...The patient had surgery...Pathologist Larry McCarthy described the gross specimen as three times normal with 15 negative nodes.

Microscopic studies revealed a well-differentiated adeno CA...

Pathologist Grant Stemmerman was in a crusading mood..."Recent studies from Sweden show that early prostatic CA, when treated surgically, have no added benefit...We reviewed our own autopsy figures...Of 8,006 men autopsied, 250 or 3% had clinical CA of their prostate...Of the 250, 16%, or only 40, died from their CA...three-fourths of whom had Stage 4 or 5 disease..." Stemmy pointed

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## NEWS AND NOTES *(Continued)*

out that "resection has a 1% to 2% mortality and the salvage of Stage 1 tumor is less than the number you kill...and most of the patients are poor operative risks..." "I personally, as a 71 year old, will not want anyone checking my prostate...There is no rationale for surgery of early prostatic CA...Besides, there is also post-op incontinence and impotence...though impotence is not such a social disease as incontinence..."

### Miscellany

An elderly woman from Hawaii was driving with her husband as passenger in Galveston, Texas...A motorcycle cop stopped her..."M'am, you just went through a red light..." Being hard of hearing, she turned to her husband..."What did he say?" "He says you drove through a red light!" "Let's see your driver's license..." "What did he say?" "He wants to see your driver's license!" The officer looked at her Hawaii license and reminisced: "So you're from Hawaii...you know, I had one of the worst lays when I was stationed there..." "What did he say?" she asked. The husband replied, "He says he thinks he knows you..."
(As told by Marc Shabot, visiting gastroenterology prof from Galveston.)

"Half of what we learn is irrelevant. The important thing is finding out which half." (A Norman Cousins quote from Marc Shabot's lecture.) ■

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And who can deny it when they visit a store.
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The choice to excel–or simply to be,
That makes them keep risking the gun at their head
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## Reader's Express Their Views

**After things have gone from bad to worse, the cycle will repeat itself.**

"If others are doing it, it must be good!" The bandwagon psychology is a powerful incentive for action by legislatures, and we can be certain that it will be an issue here soon. Compulsory acceptance of assignment for Medicare patients is already in place in two New England states, Massachusetts and Rhode Island. Additional states that will consider similar bills this fall are Wisconsin, Pennsylvania, New Hampshire and New Jersey. Two states, Vermont and Connecticut, have enacted means-tested Medicare assignment, a formula that seems to make better sense. In any case, the "wave" is on, and soon it will roll across the country, eventually enveloping the Aloha State.

**Every solution breeds new problems.**

Tireless David McIntyre, Bellevue, Washington, ophthalmologist, is a latter-day Diogenes carrying his lantern through the umbrageous passageways of the minds of HFCA. He studied the Washington state PRO data and found that when the PRO evaluated 11,330 cases submitted for consideration, five (5) patients (0.04%) were denied cataract surgery. Additional data suggest the program has not altered the utilization of cataract surgery. This information indicates that the problem of unnecessary cataract surgery does not exist, according to Dr. McIntyre. Result: We have another very expensive make-work project to enhance HCFAs regulatory capacity, and to increase your workload, but with virtually no benefit to anyone.

**Beware the attack of the angry gray panther!**

Senator Durenberger expressed it best when he said, "They want the care, but don't want to foot the bill." The Catastrophic Health Insurance bill signed into law last year with such fanfare has been repealed. The embarrassing fact is that legislation is not all that bad, but it was the first time Congress decided to send the check to the people who would receive the benefits. Premium payments were stratified, with indigents paying nothing, and the well-to-do paying a maximum of $800/year. That brought a cloudburst of messages from the elderly. Apparently, those paying the highest premiums are also the most literate and vocal, and congress people, always on the lookout for next election, do respect the elder-lobby!

**We never had this problem when Nancy was running things.**

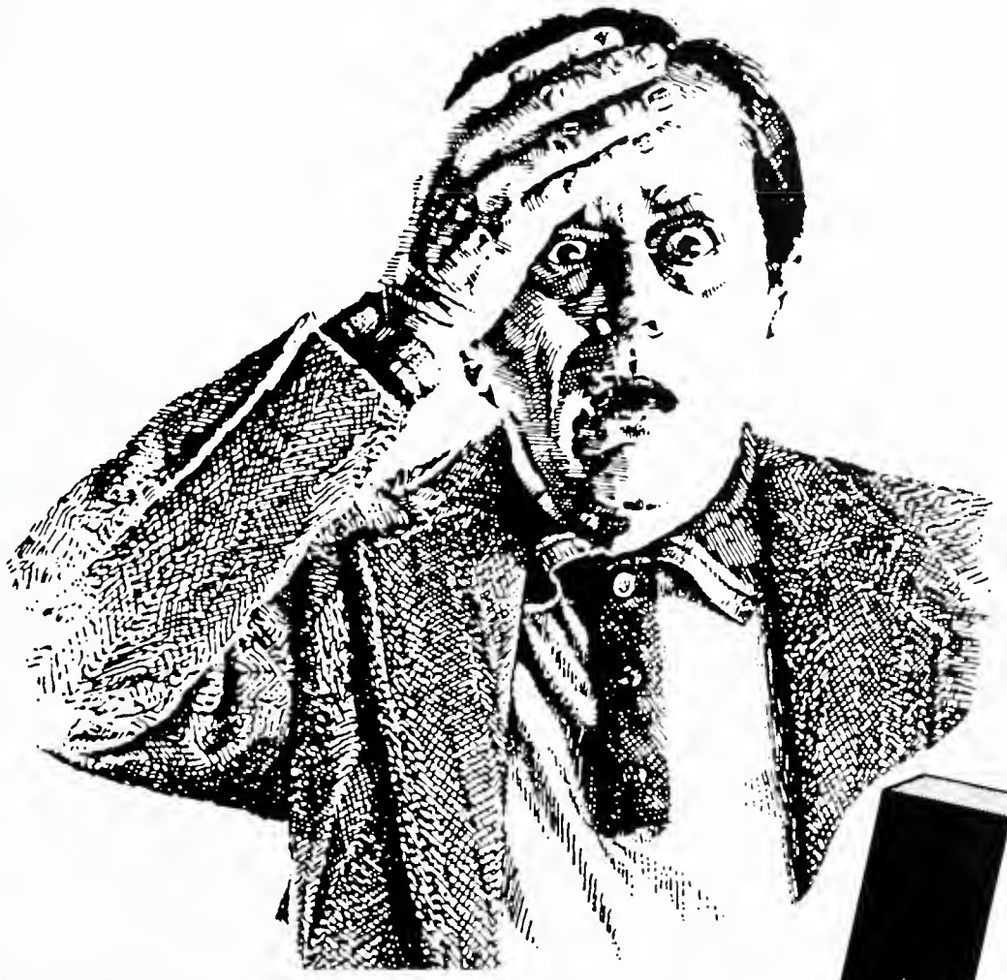
Who would have thought that the Pres. did not want him for SG or Everett Koop, MD, in his administration? By anyone's yardstick, the man has done an outstanding job as Surgeon General, and brought respect to that title, which it never had previously. However, our preppy Pres. did not want him for SG nor for director of HHS, a role that Dr. Koop coveted. Our new chief of HHS, Louis Sullivan, MD, obediently did a 180-degree turn on abortion to agree with the White House. The Washington gossip is that Dr. Koop is too much his own man. Well, we mustn't have that sort of thing, eh, George?

**Zeal without knowledge is the sister of folly.**

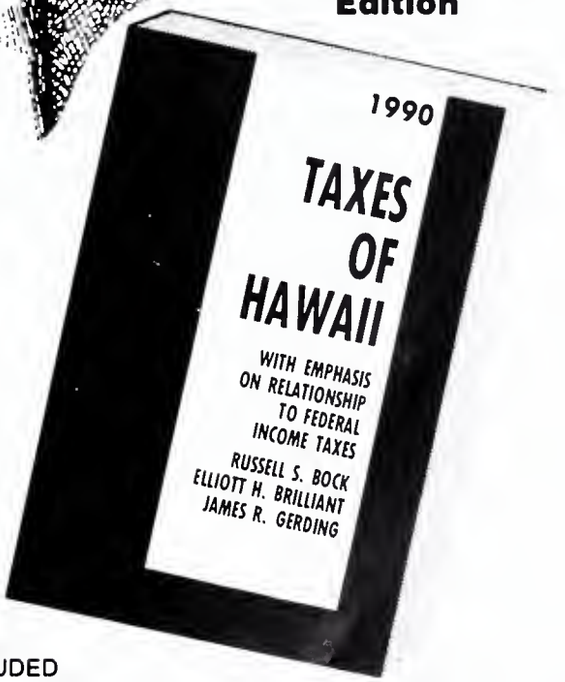
Despite prayers and tears, Oral Roberts University of Medicine could not part the Sea of Red Ink. After 10 years of struggle, ORU is $25 million in debt, and becomes the first medical school to close in 40 years. At peak occupancy the 777-bed hospital had 170 patients, and that proved to be just too much of a drag on the ministerial empire.

Russell T. Stodd, MD
From "The Weathervane"
Vol. 6, No. 9, November 1989

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# HAWAII MEDICAL JOURNAL

CONTENTS

HIGHLIGHTS OF THE HMA COUNCIL MEETING OF 5 JANUARY 1990 77

EDITORIAL 78
The Post-Polio Syndrome
J.I. Frederick Reppun MD

CONTINUING MEDICAL EDUCATION 80

HMA COMMITTEE REPORTS 82
Senior Physicians Committee
Charlotte M. Florine MD

POLIO SURVIVORS IN HAWAII: NEW PROBLEMS OF HEALTH AND DISABILITY 86
Gary A. Okamoto MD
Joyce M. Varney MD
Mary Helen Brown LPT
Deborah A. Goebert MPH

CLOSED-CHEST ELECTRICAL ABLATION (FULGURATION) OF ATRIOVENTRICULAR ACCESSORY PATHWAY IN THE WOLFF-PARKINSON-WHITE SYNDROME: REPORT OF THE FIRST CASE IN HAWAII 92
Edward N. Shen MD

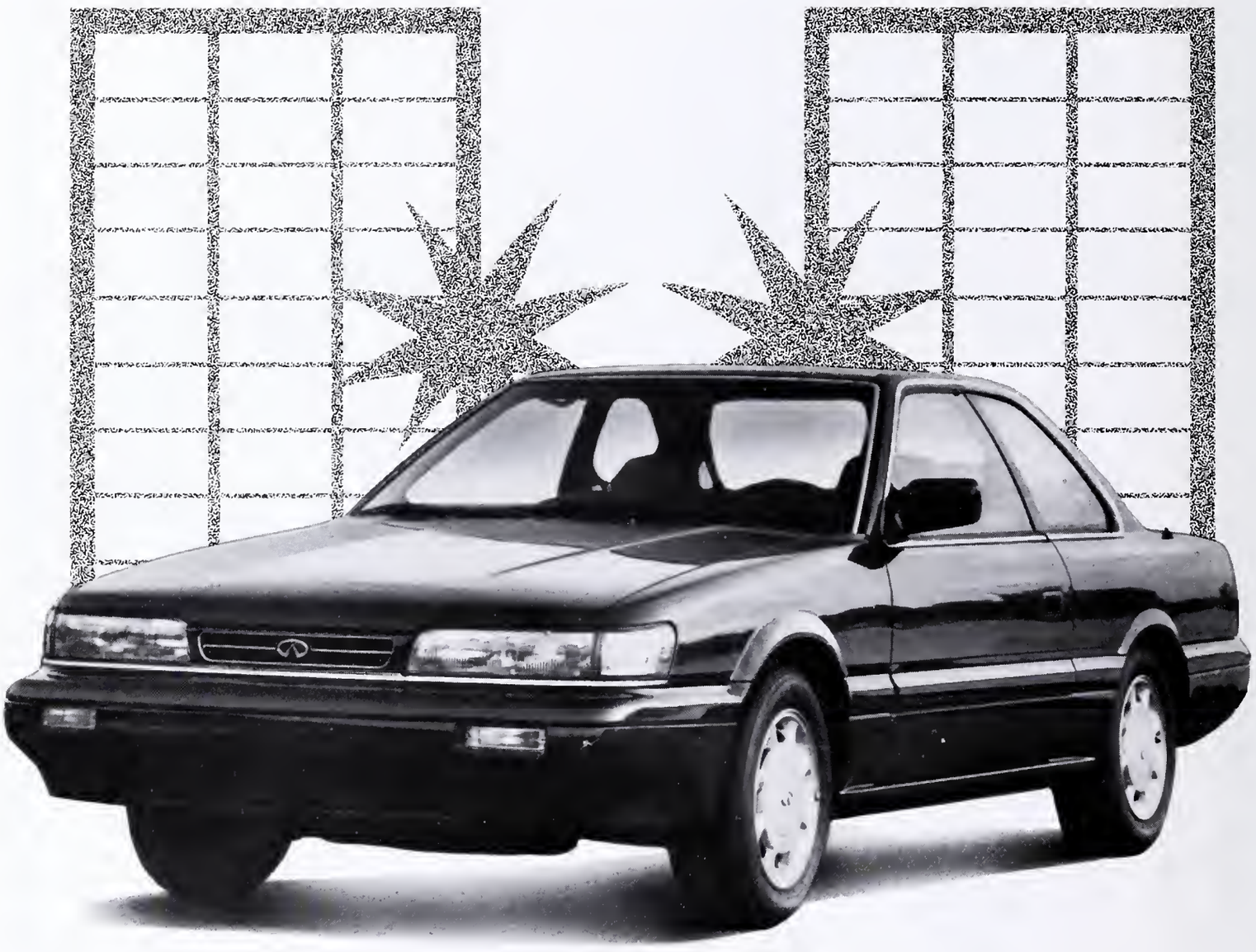
RABIES PREVENTION IN HAWAII 98
Daniel B. Fishbein MD
John M. Corboy MD
David M. Sasaki DVM MPH

INDEX TO HAWAII MEDICAL JOURNAL VOLUME 48, 1989 104

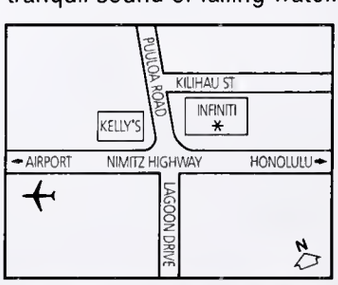
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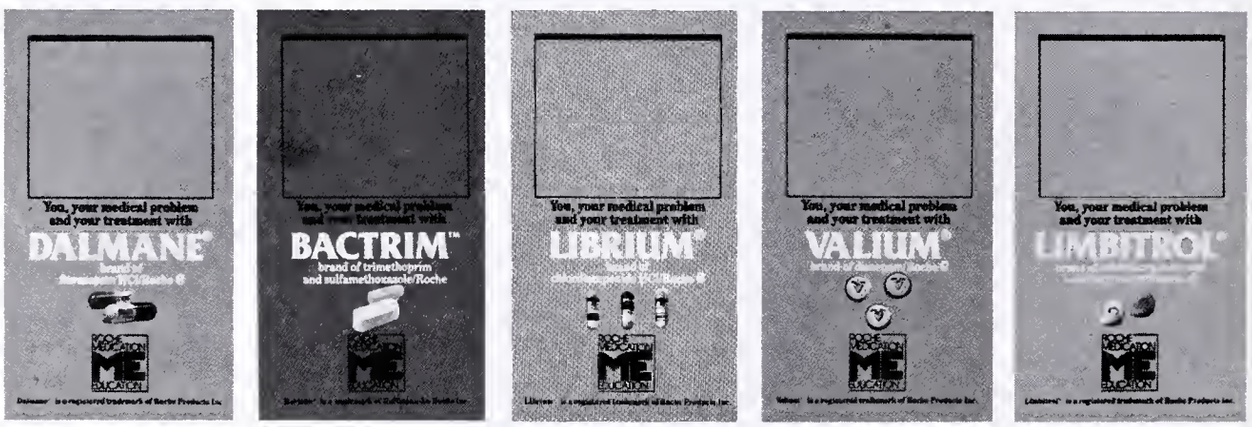
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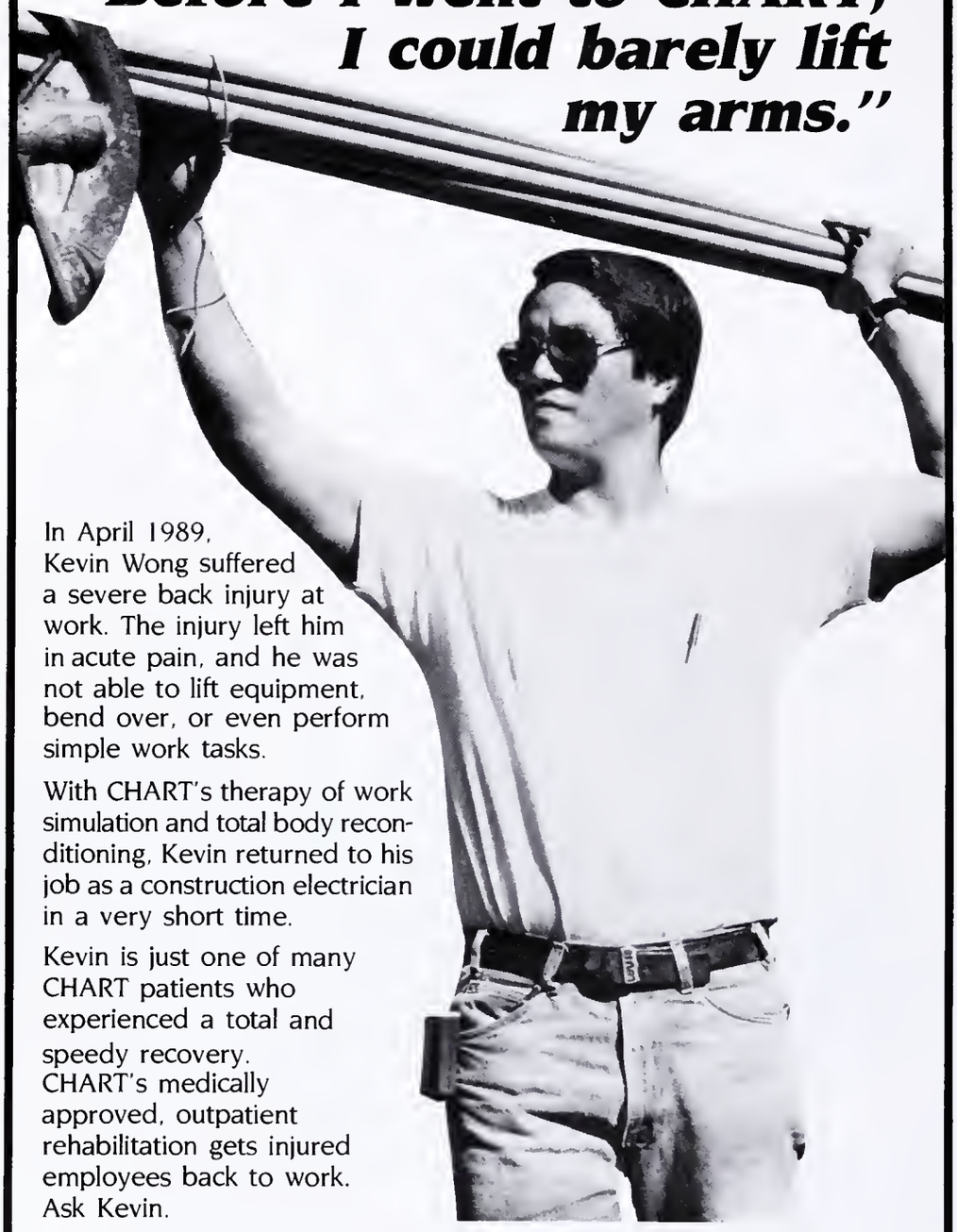



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# Highlights of the HMA Council Meeting of 5 January 1990

President John Kim called the meeting to order at 5:55 pm, after a catered buffet dinner. Members of the newly elected Council who were present included: John McDonnell, Myron Shirasu, Jeanette Chang, Allan Kunimoto, Russell Stodd, Steve Wallach, Robert Weiner, Fred Holschuh, David Heeney, Kalani Brady, Herbert K.W. Chinn, Amelia Jacang, Wes Young, Patricia Blanchette, H.H. Chun, Michael Dung, Edward Morgan, John Spangler, Ernest Bade, Richard Goodale, Helen Percy, Ed Gramlich.

Other HMA members, guests and others who attended were: Catherine Hill, Vernon Woo, George Goto, James Lumeng, William Dang, Neal Winn, Fred Reppun, Jon Won, Nelson Jones, Becky Kendro, Jennie Asato, Pat Kawamoto, Jan Estioko, Lorraine Funai, Marilyn Lindsey, Jerry Taitague, Neil Kaneshiro.

Bill Dang reported on MIEC's dividend announcement. Hawaii did pretty well in terms of claims experience, which meant that HMA members insured against malpractice had a reimbursement of a certain percentage of overpayment of premiums.

**Summary of Closed Claims Data to Date**

Approximately three-fourths of the cases involved communication issues; the two most common are "breakdown of the doctor-patient relationship" and "criticism by another doctor or health care professional."

More than one-third of the cases involved iatrogenic concerns, the most common being "insufficient treatment" or "failure to diagnose."

Of the many documentation deficiencies noted, "sparse record-keeping" (or lack thereof) is the major element that hindered the defense of a case.

Almost all the cases reviewed involved what we identified as "patients' issues," the most frequent being "disappointment/surprise at adverse outcome," which relates heavily to lack of patient education and the unrealistic expectations patients have about medical care.

Calvin Kam and Russ Stodd reported on the proceedings of the Interim Session of the AMA's House of Delegates at the Hilton Hawaiian Village the week of 2 December. Some 450 physicians of the AMA attended. Hawaii's Resolution 185 asking for guidelines to be developed by the AMA on drug-testing of physicians was referred to the Board with a report back in six months.

Secretary Myron Shirasu reported that active, full-pay membership in HMA went up by five from 1,037 in December 1988 to 1,042 in December 1989. Total membership, all categories, however, increased from 1,696 to 1,813.

Treasurer Jeanette Chang, with the assistance of John McDonnell, former treasurer and now president-elect, and Executive Director Jon Won revealed that the HMA "was in good shape" with an income of $81,731.98 for the fiscal year and an increase in the Fund Balance from $496,243.89 to $577,982.77 as of 30 November 1989.

In the absence of Speaker Dick Ando, the financial picture of HMA's 133rd Annual Meeting was reported by staffer Jennie Asato. Instead of the expected shortfall of $18,670 in budget, we came out with a loss of "only" $3,500.67!

The draft Highlights of the 133rd Annual Meeting was in the packet at each Council member's place, to be reviewed for comment and feedback later. These are to be published in the *Hawaii Medical Journal*.

The Council approved the expenditure of $500 to support the Sterile Needle Exchange Coalition's project to put posters for free in 450 MTL TheBus. The cost will be essential for printing. Draft posters were displayed by Jan of the staff. Discussion was centered about the wording on the posters. However, the HMA had previously decided to give its support. The request for HMA approval of the amount came from member Kim Thorburn as chair of the AIDS Committee of the Coalition. The HMA is only one of 19 organizations listed on the Coalition's letterhead.

The Council approved the letter from Bernie Scherman, co-chair of the HMA Workers' Comp Committee, to Mr. Orlando Watanabe, the administrator of the Disability Compensation Division of the DLIR, suggesting guidelines for the use of the new codes allowing reimbursement for telephone calls about patients (the new fee schedule will soon be issued).

It also approved continuing to offer help to the DHS on Mr. Motooka's request for Peer Review of problem Medicaid cases presented by member Florence Chinn who is employed by the DHS.

The Council approved the plan of its counsel Vernon Woo, Esq. to listen in and follow the trial in the case of Dr. Carol Brown's countersuit against the State for breach of a Medicaid contract, rather than participate as amicus curiae.

The Council approved John Kim's appointments to the various boards, bureaus, and committees of the HMA.

It also approved Executive Director Jon Won's proposals for membership benefits in Xelan's endowment program, as well as in The Pension Professionals' retirement program. Details will be distributed to the membership.

Discussion took place over the concern about the liability of members of the Committee on Impaired Physicians or others who are supervisory over the "diversion" activities of impaired physicians, be they members or not, whom the profession wishes to help and rehabilitate prior to an end stage in which law enforcement comes into play. No specific action was taken, however.

Jon Won introduced guests Robert Grathwald and Wendall Kimura representing the Hawaii Insurers Council; they made a presentation on the horrendous costs of the no-fault auto accident law of 1973. The list of "providers" includes physicians to herbalists and faith healers, "anyone who can make a person feel better," Grathwald said. No-fault also must pay the lawyers on both sides of a claim. Insurers have absolutely no control over costs. Therefore, the HIC is requesting "that the HMA support the concept of a fee schedule" analagous to the one in Workers' Comp. The HMA Council gave approval.

Finally, the Council completed some housekeeping actions requested by HMA President John Kim and then adjourned at 8:25 pm.

J.I. Frederick Reppun, MD
Recorder pro tem




# The post-polio syndrome

Hawaii's Rehabilitation Center of the Pacific, under the leadership of its administrator, Gary Okamoto, MD, has come through with an interesting study of the controversial post-polio syndrome, controversial in the sense that it is or isn't a relapse of the disease 2 or 3 decades after onset. It may be a late manifestation, but then so is the aging process!

The reader's attention is directed to the article in this issue by Okamoto et al. After reading it, medical practitioners can make up their own minds as to its validity.

Our own critical analysis leads us to believe that there is nothing unique about the degeneration that can be expected in any disabled or crippled person when he or she reaches the 7th, 8th or 9th decades of life, polio included. The recommendations for care, support and treatment at the end of the article could apply equally to anyone crippled by arthritis, earlier major fractures, neurological disease sequellae, etc. We do not agree that this group of cripples needs the special attention of physical therapists and psychologists, singled out from all the other elderly with disabling degenerative diseases.

Specifically, we understand that the study has been unable to compare its results with "normal" controls; to include such would have broadened and made more difficult the entire project, and cost much more. Still, it might be crucial to the issue. The authors do acknowledge this incapacity.

They also admit to the inaccessibility of hospitalization records now 20 to 30 years old; either that or to the expense of ferreting out such documentation of the initial ravages of the disease.

Then there is the subjective nature of "self-evaluation," not a very scientific way to formulate data on when and what was the outcome at the "plateau" stage (stated as happening about 5 years post-recovery from the acute illness). During the study and evaluation, there is a question why the "subjects" did their own self-evaluation of the capacity to ambulate over a certain distance; why wasn't it scientifically measured by objective referees?

Finally, the authors' figures indicate that only 32% of the subjects studied "reported an increase in their reliance on walking aids" several decades after their acute attack of polio, ie, at the time of this study, whereas 57% said there was no change and 11% more "thought their mobility had improved" over the years, for a total of 68% who apparently had no signs of the PPS (post-polio syndrome)!

At any rate, the authors promise to increase the cohort studied and to try to resolve some of the problems in the study.

J.I. Frederick Reppun, MD
Editor

# Erratum

In the article "Asphyxiophilia and Autoerotic Death" (HMJ, January 1990), Table 4 contained a typographical error that stated "evidence of depresion or death wish" was recorded in five cases. The corrected table reads as follows:

**Table 4: Other Investigative Findings**

| | |
|---|---|
| 1. Drugs | |
| a. alcohol (percentage > .1%) | 2 |
| b. "poppers" (amyl nitrite) | 0 |
| c. other drugs (e.g., freon) | 1 |
| d. not apparent | 2 |
| e. not recorded | 4 |
| 2. Previous depression | |
| a. yes | 1 |
| b. no evidence of depression or death wish | 5 |
| c. not recorded | 2 |
| 3. Letters or notes left behind | |
| a. saying death was accidental | 1 |
| b. saying death was intentional | 0 |
| c. not apparent | 1 |
| d. not recorded | 6 |
| 4. Other hidden signs of autoerotic behavior | |
| a. yes | 2 |
| b. no indications | 6 |
| c. not recorded | 0 |
| 5. Suspicion or evidence of foul play | |
| a. yes | 0 |
| b. no | 8 |




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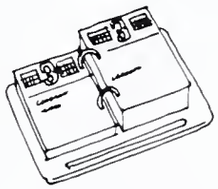
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   C. Endocrinology Grand Rounds, first Tuesday, 5:30-6:30 p.m., Queen's University Tower, Room 506.
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   E. Cardiology Grand Rounds, third Tuesday, 6:30-7:30 p.m., Queen's University Tower, Room 508.
   F. Infectious Disease Grand Rounds, first and third Thursdays, 5 - 6 p.m., Queen's Nalani 1 Conference Room.
   G. Dermatology Grand Rounds, second Wednesday, 7:30-9:30 a.m., Queen's Medical Center, Queen Emma Clinic.
   H. Pulmonary Grand Rounds, fourth Monday, 12:30-1:30 p.m., Queen's Medical Center, Kamehameha Lounge.
   I. Nuclear Medicine Grand Rounds, third Wednesday, 5-6:30 p.m., Straub Clinic & Hospital, Doctors' Dining Room.
   J. Medical-Surgical GI Grand Rounds, third Friday, 12:45-1:45 p.m., Kuakini Hospital, PB4 Classroom.
   K. Rehabilitation Hospital of the Pacific Grand Rounds, first and third Thursdays, 7:30 - 8:30 a.m., Rehabilitation Conference Room, first floor.
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4. Department of Pediatrics
   A. Grand Rounds, Thursdays, 8-9 a.m., Kapiolani Medical Center for Women and Children, second-floor auditorium.
   B. Monday Noon Conference, 12:45-1:45 p.m., Kapiolani Medical Center for Women and Children, second-floor auditorium.
   C. Pediatric Infectious Disease Conference, Thursdays, 12:30-1:30 p.m., Kapiolani Medical Center for Women and Children, third-floor conference room.
   D. Perinatal Grand Rounds, Fridays, 8:15-9:15 a.m., Kapiolani Medical Center for Women and Children, Conference Room B.
5. Department of Psychiatry
   A. Grand Rounds, Fridays, 8-9:30 a.m., Queen's University Tower, Room 618.
   B. Scientific Forum, Mondays, 12:30-2 p.m., Kapiolani Medical Center for Women and Children, Conference Room 626.
   C. Hawaii State Hospital Psychiatry Education Conference, third Wednesday, 10:30 a.m.-noon, Hawaii State Hospital, Goddard Conference Room.
6. Department of Surgery
   A. Grand Rounds, first, second, and third Saturdays, 7:30-9 a.m., rotating hospitals.
   B. Statistical M&M, last Saturday, 7:30-9 a.m., rotating hospitals.
   C. Journal Club, first and third Tuesdays, 6-8 p.m., Queen's University Tower, Room 620.
   D. Medical-Surgical GI Grand Rounds, third Friday, 12:45-1:45 p.m., Kuakini Medical Center, PB4 Classroom.
   E. Pediatric Surgical Grand Rounds, first Friday, 12:45-1:45 p.m., Kapiolani Medical Center for Women and Children, Conference Room B.
   F. Basic Science Lecture, Wednesdays, 7:15-8:15 a.m., Queen's University Tower, Room 618.
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1. CME Programs, Thursdays, 8-9 a.m. Topics and speakers to be announced.

   For further information, or to be placed on the mailing list, contact Comprehensive Health and Active Rehabilitation Training (CHART) at 523-1674.

**G.N. Wilcox Memorial Hospital**

1. General Medical Staff Meeting, Quarterly in January, April, July, and October, 7:30 p.m., Hospital Conference Room.
2. Clinical Review, Mondays (occasional Friday), noon-2 p.m., Hospital Conference Room.
3. Journal Club, last Monday, bimonthly (January, March, etc.), Hospital Conference Room.

   For further information, call Medical Staff Services, 245-1173.

**Hawaii Medical Association**

1. HMA Maternal and Perinatal Mortality Study Committee, on an on-call basis. 1360 S. Beretania St., 2nd Floor. (Call 536-7702 to confirm meeting schedule.)

**Hawaii Ophthalmological Society**

1. Monthly Dinner Meeting, third Thursday of each month (except July, August, and December), 6:30-9:30 p.m., The Pacific Club.

**Hawaii Thoracic Society**

1. To be announced — Visiting Professorship Program Statewide.
2. Sinclair Chest Club Quarterly Dinner Meetings, January, April, July, and October. Call Rosemary Respicio, BSN, at 537-5966 for dates and speakers.

**Hilo Hospital**

1. Radiology Conference, first Friday, 12:30-1:30 p.m., GC-1 Conference Room.
2. Tumor Conference, second Friday, 12:30-1:30 p.m., GC-1 Conference Room.
3. "Great Case" Conference/Clinical Pharmacology, third Friday, 12:30-1:30 p.m., GC-1 Conference Room.
4. Pathology Conference/Morbidity-Mortality Review, fourth Friday, 12:30-1:30 p.m., GC-1 Conference Room.
5. Visiting Professor/Network for Continuing Medical Education Tapes (ETV), Saturdays, 7-8 a.m., GC-1 Conference Room.

For further information, call Administration at 969-4382.

**Kaiser Permanente Medical Center**

1. Tumor Board, Tuesdays, noon-1 p.m., Moanalua Auditorium.
2. Obstetrics/Perinatal Conference, last Tuesday, 8-9 a.m., Moanalua Conference Room C-D.
3. Orthopedic Conference, Wednesdays, 8:30-9:30 a.m., Moanalua Conference Room C-D.
4. Laboratory Medicine Seminar, Wednesdays, 11 a.m.-noon, Laboratory Conference Room.
- *5. Medicine Grand Rounds, Wednesdays, 8-9 a.m., Moanalua Auditorium.
- *6. Interdepartmental Conferences, third Wednesday, every other month (beginning Jan. 1990), Moanalua Auditorium (call CME Office for topic).
- *7. Family Practice Grand Rounds, fourth Thursday, 7:45-9 a.m., Moanalua Conference Room C-D.
8. Surgical Grand Rounds, Fridays, 8-9 a.m., Moanalua Auditorium.
9. Surgery M & M Conference, Fridays, 9-10 a.m., Moanalua Auditorium.
10. Pathology Conference, Saturdays, 11-noon, Conference Room A.
11. Network for Continuing Medical Education (NCME) Videotape Program, Monday-Friday, available upon request.

For further information, call CME Office at 834-9496 for topics.

**Kona Hospital**

1. CME Meeting, second Thursday, bimonthly (January, March, etc.), 8-9 a.m., Hospital Dining Room.
2. Grand Rounds/Tumor Board, fourth Wednesday, 8:30-9:30 a.m., Hospital Dining Room.
3. Visiting Professor Programs, (For further information, call 322-4429 or 322-4455.)

**Kuakini Medical Center**

1. Visiting Professor Lectures (ongoing).
2. Guest Lectures (ongoing).
3. Neurology Conference, second Monday, 12:30-1:30 p.m., Resident's Conference Room.
4. Neuroradiology Conference, third Monday, 8-9 a.m., PB-4 Conference Room.
5. Nephrology Conference, third Monday, noon-1 p.m., Resident's Conference Room.
6. Department of Ophthalmology Meeting, first Tuesday, 12:30-1:30 p.m., Private Dining Room.
7. Internal Medicine Study Club, bimonthly second Tuesday, 6-7 p.m., PB-4 Conference Room.
8. Department of Medicine (M&M), fourth Tuesday, 1-2 p.m., Hale Pulama Mau Auditorium.
9. Endocrine Conference, first Wednesday, 12:30-1:30 p.m., Resident's Conference Room.
10. G.I. Conference, second Wednesday, 12:30-1:30 p.m., Resident's Conference Room.
11. Infectious Disease Conference, third Wednesday, 12:30-1:30 p.m., Resident's Conference Room.
12. Oncology Conference, Thursdays, 7:30-8:30 a.m., PB-5 Conference Room.
13. Hematology and Oncology Conference, first Thursday, 12:30-1:30 p.m., Resident's Conference Room.
14. Pulmonary Conference, second Thursday, 1-2 p.m., Resident's Conference Room.
15. Rheumatology Conference, third Thursday, 12:30-1:30 p.m., Resident's Conference Room.
16. Cardiology Conference, fourth Thursday, 12:30-1:30 p.m., Resident's Conference Room.
17. Surgical Conference, first Friday, 12:45-1:45 p.m., PB-5 Conference Room, (Note: Also fourth Friday, if there are five Fridays in a month.)
18. Nutrition Conference, second Friday, bimonthly 12:30-1:30 p.m., Private Dining Room.
19. Surgical Trauma Conference, second Friday, 12:45-1:45 p.m., PB-5 Conference Room.
20. Surgical Mortality and Morbidity Conference, last Friday, 12:45-1:45 p.m., PB-5 Conference Room.

**Maui Memorial Hospital**

1. Department of Medicine, first Thursday, 7-8 a.m., auditorium.
2. Department of Surgery, second Thursday, 7-8 a.m., auditorium.
3. Department of Obstetrics & Gynecology, third Thursday, 7-8 a.m., classroom #2.
4. Department of Pediatrics, fourth Thursday, 7-8 a.m., auditorium.
5. Fifth Thursday Meeting: 7-8 a.m., auditorium.
6. Tumor Board Conference; second Friday and fourth Wednesday, 7-8 a.m., multipurpose room.
7. Anesthesia Conference, second Wednesday, 7-8 a.m., multi-purpose room.

**The Queen's Medical Center**

1. Anesthesiology Conference, first and second Wednesdays, 7-8 a.m., Doctors' Conference Room.
2. Emergency Medicine Conference, third Tuesday, 11:30-12:30 p.m., Ultrasound Conference Room.
3. MICU Lecture, Monday-Thursday, time varies from 2 to 3 p.m., Queen Emma Tower Conference Room 4A, 4B or 4C. (For exact schedule, call 547-4481.)
4. Neuro-Radiology Conference, Mondays, 8-9 a.m., Imaging Services classroom, QET #2.
5. Ob/Gyn Conference, every Monday, 1-2 p.m., Kamehameha Auditorium.
6. Ophthalmology Conference, fourth Tuesday, 4:45-6 p.m., Doctor's Conference Room.
7. Orthopedic Conference, every Wednesday, 7-8 a.m., Kamehameha Auditorium.
8. Otolaryngology Conference, first Friday, 7:30-8:30 a.m., Imaging Classroom and second Friday, 7:30-8:30 a.m., Harkness Room 139.
9. Pathology Conference, every Wednesday, 7-8 a.m., Queen Emma Tower, fourth floor.
10. Pediatrics Conference, fourth Thursday, 12:30-1:30 p.m., Harkness Board Room.
11. QMC-UH Grand Rounds, Mondays, Wednesdays, and Thursdays, 12:30-1:30 p.m., (Mondays at Kamehameha Lounge and Wednesday, Thursdays at Kamehameha Auditorium.)
12. QMC-UH Medical Conference, every Friday, 8-9 a.m., Mabel Smyth Auditorium.
13. Surgical Conference, every Tuesday, 4:30-5:30 p.m., Kamehameha Auditorium.
14. Tumor Conference, every Thursday, 12:30-1:30 p.m., Cafeteria Conference Room.
15. Advanced Cardiopulmonary Life Support. For further information, contact Nursing Education 547-4373.
16. Community Consortium of AIDS Physicians in Hawaii. For further information, contact: David McIlwan, MD, 537-2211.

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**HMA Committee Reports**

# Senior Physicians Committee

Charlotte M. Florine MD Chairperson

The Hawaii Medical Association Senior Physicians Committee, an organization of Hawaii's retired or semi-retired physicians, meets on the first Thursday of each month for lunch. Reactivated in August 1988, the Committee members are often referred to affectionately as the Silver Foxes or the Gray Panthers. They have actively researched various hot issues and made recommendations to the HMA Council, Executive Officers and State government officials such as John C. Lewin, MD, Director of Health.

During 1989, the Committee recommended to Council that HMA support Dr. Jack Lewin's State Health Insurance Plan for the "gap group", and that Lewin's program for mental health, as he envisioned it be supported: To build community mental health programs.

In March '89 the Committee served as liaison to the HMA Mental Health Committee by coordinating a meeting with several mental health organizations. The Fuller Torrey report was discussed and ideas exchanged on how to improve the State's mental health program.

Later in the year, the Committee called a meeting with seven mental health-related organizations in order to discuss their goals and how they might mesh with the other organizations.

Along similar lines, George "Bill" Starbuck and Walter Quisenberry had both taken positions in the early 1970s about methadone programs and treatment. This is a lively issue today, with 200 additional treatment positions needed on Oahu and 100 needed on Neighbor Islands. A letter urging this be done, on official Senior Physicians Committee letterhead listing all members names, was sent to all legislators prior to the opening of the 1990 Legislative Session.

The Senior Physicians Committee is endorsing George Starbuck and the Sterile Needle Exchange Coalition to begin a 3-year demonstration program similar to the one in Tacoma, Washington, here in the Islands in the hope of lessening the transmission of HIV and AIDS as a result of using dirty syringes and needles.

The Committee asks for the support of the readers in these efforts and would appreciate it if readers would write letters to their legislators in support of methadone treatment, increasing the number of treatment positions and supporting a sterile needle exchange program to be administered by Community Health Outreach Workers (CHOWs).

Finally: Calling all Silver Foxes! Come join us at a lively meeting each month at the HMA! ■

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**CME** *(Continued from page 81)*

**St. Francis Medical Center**

1. Oncology Conference, Mondays, 7:30-8:30 a.m., Sullivan IV Classroom.
2. ENT Meeting, first Tuesday, 7:30-8:30 a.m., Sullivan IV Classroom.
3. Surgery Grand Rounds, first, second, and third Fridays, 7:30-8:30 a.m., Sullivan IV Classroom.
4. Dept. of Medicine Morbidity and Mortality Conference, first Thursday of each month, 8-9 a.m. Sullivan IV Classroom. (For SFMC staff members only).
5. Dept. of Medicine Conferences, Thursdays, except for first and last Thursdays of each month, 8-9 a.m., Sullivan IV Classroom.
6. Medico-Legal Seminars, last Thursday of each month, 8-9 a.m., L.Q. Pang Auditorium. (Everyone welcome).
7. Hematology Conference, third Thursday, 12:30-1:30 p.m., Sullivan IV Classroom. (Contact the Education Department at 547-6410 if conference is scheduled for the month).
8. Internal Medicine Review series, Monday, Wednesday, Thursday, Friday, 12:30-1:30 p.m., Sullivan IV Classroom. (Contact the Medical Education Office at 547-6497 for specific dates of lectures.)
9. Dept. of Surgery Morbidity and Mortality Conference, last Friday of each month, 7:30-8:30 a.m., Sullivan IV Classroom. (For SFMC staff members only).

**Straub Clinic & Hospital**

1. Associates Meeting, first Monday, 5:30-7 p.m., every other month, Doctor's Dining Room.
2. Burns Rounds, first and third Wednesdays, 4-5:15 p.m., H3 Conference Room.
3. Cardiac Surgery Conference, fourth Tuesday, 4:30-5:30 p.m., Doctors' Dining Room.
4. Ophthalmalogy Conference, third Thursday, 4:30-5:45 p.m., First Interstate Center, Room 950.
5. Friday Noon Conference, Fridays, 12:30-1:30 p.m., Doctor's Dining Room.
6. Gastroenterology Journal Club, fourth Tuesday, 5-6:30 p.m., 4th Floor Conference Room.
7. Neuropathology Conference, fourth Saturday, 8-9 a.m., Doctor's Dining Room.
8. Patient Care Conference, second Tuesday, 5-6 p.m., Doctor's Dining Room.
9. Surgical Morbidity and Mortality Conference, fourth Tuesday, 7-8 a.m., Doctor's Dining Room.

For further information, call the Office of Professional Activities, 522-3151.

**Wahlawa General Hospital**

1. CME Program, Tuesdays, 1-2 p.m., SNFI Dining Room. For further information, call the Medical Staff Services Office at 621-8411.

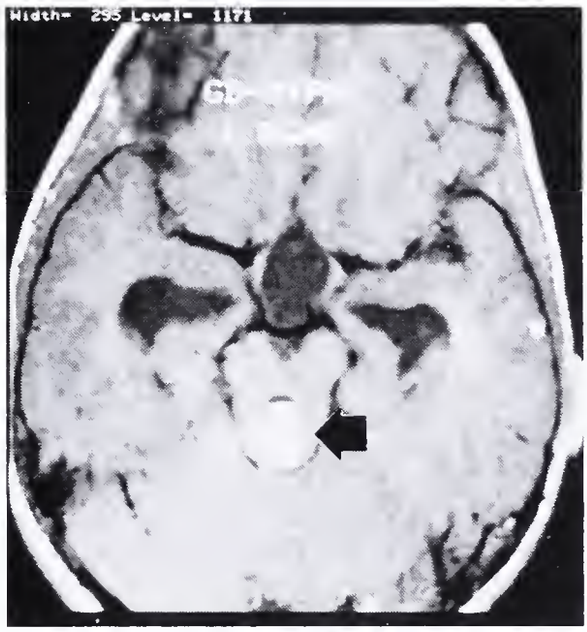
Note: All conferences are subject to change. Monthly calendars are available upon request.

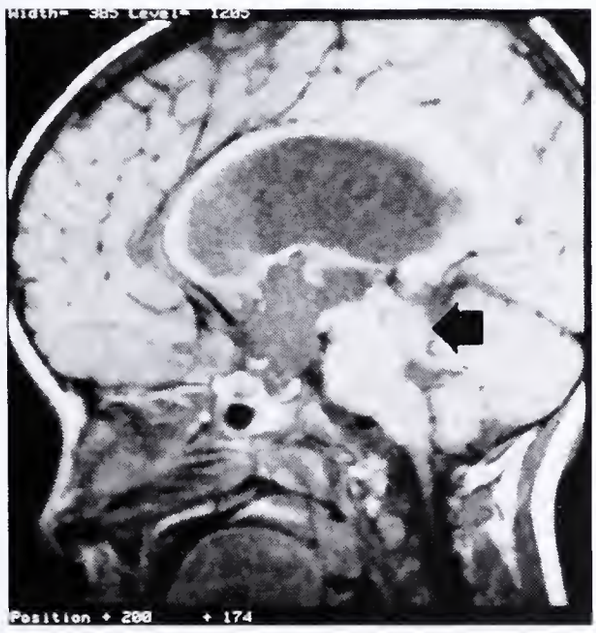
# MRI CASE OF THE MONTH

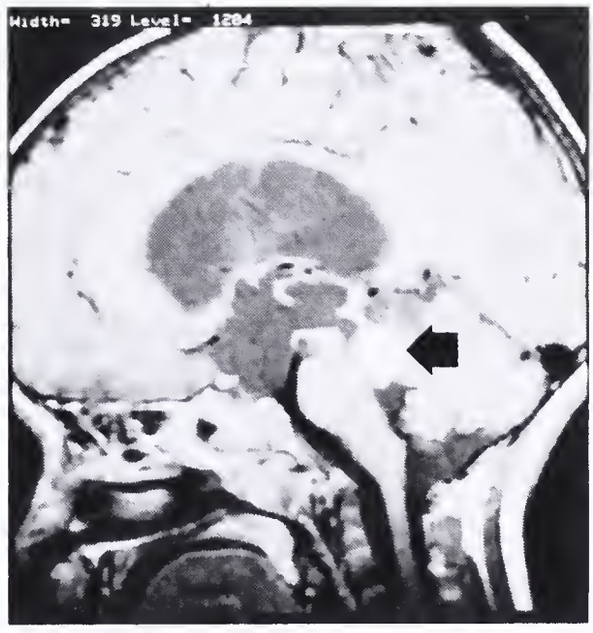
## CYSTIC ASTROCYTOMA

**CLINICAL HISTORY:** Five-year-old female with head trauma and incidental finding of hydrocephalus and enhancing mass in the quadrigeminal plate on CT examination.




**COMMENT:** MRI examination following gadolinium defines cystic astrocytoma more precisely and demonstrates compression of the cerebral aqueduct as the cause of the hydrocephalus.

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# Polio survivors in Hawaii: New problems of health and disability

Gary A. Okamoto MD*
Joyce M. Varney DPH**
Mary Helen Brown LPT†
Deborah A. Goebert MPH††

*U.S. mainland studies reveal an alarming rise of progressive disability reported by long-term polio survivors. To determine if polio survivors residing in Hawaii were experiencing similar problems, this study of 100 volunteers was undertaken. Extensive interviews and physical examinations were performed. Results indicate that many patients were complaining of new or greater disability due to late complications of polio or medical conditions unrelated to polio. Twenty percent appeared at greater risk for having post-polio syndrome (PPS). Over half described mobility that was less than fully independent. Subjects voiced a clear need for specialized health, social and rehabilitative services. Consistent with Mainland reports, polio survivors in Hawaii are demonstrating changes in disability that challenge the traditional notion that polio is a static, permanently stable neurologic condition.*

## Introduction

Over 300,000 persons in the United States are disabled from paralytic poliomyelitis[1]. Based on this estimate, 1,000 of them reside in Hawaii. These polio survivors have been the subject of recent epidemiologic[2-4] and clinical[5-7] investigation stemming from reports of progressive disability long after the acute illness.

Progressive disability can be the result of post-polio syndrome (PPS), other late effects of paralytic poliomyelitis, or non-polio related medical conditions. Post-polio syndrome, which has drawn national attention to forgotten polio survivors, is an insidious condition, appearing 2 or more decades following acute illness[3-5,8]. Its principal symptoms include profound fatigue, new weakness, pain in joints or muscles, cold intolerance, and breathing difficulty. When previously affected or normal-appearing muscles weaken and atrophy, this syndrome has been called progressive post-polio muscular atrophy (PPMA)[1].

The precise cause of PPS or PPMA is unknown. Dalakas, et al.[5] have demonstrated the loss of individual muscle fibers scattered throughout muscle biopsy specimens in symptomatic subjects under age 60. Following the fatal viral attack of their anterior horn cells, surviving motor units adopted denervated adjacent muscle fibers by sprouting collateral terminal axons. After years of hypermetabolic functioning, these enlarged motor units deteriorate. This deterioration is manifested by the loss of collateral terminal axons. In older polio survivors, this loss may be compounded by the natural attrition of anterior horn cells over age 60. Although there is no evidence of viral reinfection or reactivation, PPS or PPMA also may result from a derangement in the immune system[5-7].

Other late onset, polio-related disabilities usually result from chronic overuse or abuse of the musculoskeletal system[8]. Years of hyperextending a flail knee can result in painful genu recurvatum. Scoliosis or hyperlordosis of the back can lead to back pain. Moderate reliance on crutch ambulation can cause painful shoulders or elbows. Bursitis, carpal tunnel syndrome and osteoarthritis of the tarsal joints are other examples of overuse phenomena among polio survivors.

* Associate Professor
John A. Burns School of Medicine
** Director of Research
Pacific Basin Rehabilitation Research and Training Center
John A. Burns School of Medicine
University of Hawaii at Manoa
Rehabilitation Hospital of the Pacific
226 North Kuakini St.
Honolulu, Hawaii 96817
†Research Specialist (PBRRTC)
††Training Specialist (PBRRTC)

This project was supported by Cooperative Agreement #H133B90001, National Institute of Disability and Rehabilitation Research, Department of Education, Washington, D.C. 20202.

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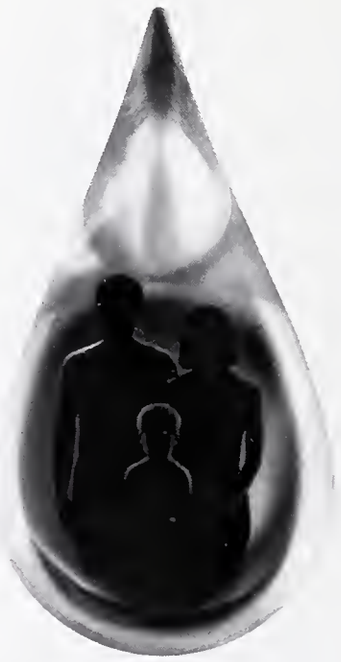
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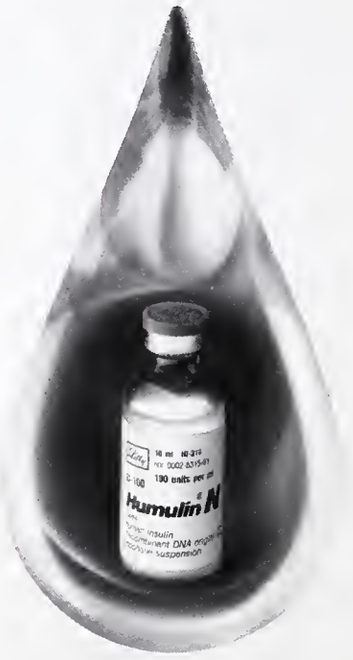
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Progressive disability, however, can be caused by non-polio related medical conditions such as diabetes mellitus, cardiomyopathy, emphysema, hypothyroidism, stroke, alcoholism and primary depression. The polio survivor is certainly not biologically protected from developing these or other medical conditions, which may be treatable.

## Purpose

In 1987, the Pacific Basin Rehabilitation Research and Training Center (PBRRTC) undertook a long-term project to describe the musculoskeletal impairments, physical disabilities, medical complaints and health concerns of polio survivors residing in Hawaii. It was postulated that these aging residents represented a unique group of disabled persons, many of whom were probably experiencing new health problems and disabilities.

## Method

### The Sampling

Through public service announcements in local newspapers, at consumer gatherings, by word-of-mouth, and of the Rehabilitation Hospital of the Pacific (RHP), polio survivors living in Hawaii were recruited for the study. One hundred seven consecutive individuals consented to participate voluntarily. On screening, 7 were excluded because of a vague medical history, absence of neurologic sequelae on physical examination, or an inability to attend the research sessions. Thus, 100 hundred subjects completed the study.

The diagnosis of old paralytic poliomyelitis was based entirely on the quality of the subject's history and the presence of focal, asymmetric weakness involving the extremities or trunk or both. Except in a few cases, medical records documenting acute illnesses were unobtainable. Due to cost constraints, confirmatory electrodiagnosis to obtain physiologic evidence of an old anterior horn cell disease in atrophic and normal appearing muscle was not done.

The subjects signed informed consents and attended single 3- to 4-hour evaluations on Saturday mornings; these were held in the outpatient facilities at RHP. Afternoon and weekday sessions were avoided in order to minimize fatigue and enhance participation.

### Instrument

A 1-hour structured questionnaire was administered by a trained medical interviewer. It was based on questionnaires used in 2 Mainland studies[3,4]. Questions pertained to variables related to demography, initial polio illness, polio-related symptoms, current health problems, utilization of health services, and perceived needs for assistance. The subjects were asked about their use of mobility aids immediately following the acute illness, at maximum functional recovery, and currently. The maximum recovery was determined to have occurred when the subject's functional improvement had reached a plateau; this usually was within 5 years following the acute illness, as determined by the subject.

### Physical and Functional Examination

Physical therapists then carried out musculoskeletal examinations, weight measurements, and timed ambulation over a 50-meter distance. Based on self-assessment reports, specific abilities were graded, using the Functional Independence Measure (FIM)[9]. The data were collected, computerized and analyzed, using the Statistical Package for Social Sciences[10].

## Results

### Population

The subjects had a mean age of 54 years (median 55 and range 25 to 83). Fifty-eight were women and 42 were men. Sixty-seven percent were under age 60. Fifty-six percent were married, 19% divorced, 3% widowed and 22% were never married. Seventy-four percent were Caucasian, 10% Japanese, 8% Hawaiian or part-Hawaiian, 55% Chinese, 2% Filipino and 1% were of other ethnic ancestry. Ninety-eight percent had high-school diplomas, 50% college degrees and 23% had graduate degrees. Forty-seven percent were professional, 2% technical, 8% sales and service, 8% clerical, 2% manual labor, 3% homemakers, 2% students and 4% had other kinds of jobs. Four percent were too disabled to work, 5% were unemployed and 14% were retired.

### Acute Illness

Fifty-six percent reported their acute poliomyelitis had taken place between 0-9 years of age, 22% between 10-19 years, 14% from 20-29, 7% from 30-39 years and 1 was uncertain. The median age of acute illness was 8.5 years (range 1-36), and the average number of years since polio was 43 years (range 24-80). Seventy-three percent were initially hospitalized. Seventeen percent required tank respirators for ventilation. Twenty-two percent recalled having had paralysis in 4 limbs, 12% in 3 limbs, 40% in 2 limbs and 24% in 1 limb. By recall, 2 subjects denied any earlier limb weakness. Eleven percent remembered facial or oropharyngeal paralysis and 49% truncal involvement. Twenty-five percent had their acute illness in Hawaii, 61% in mainland United States, 6% in Asia and 4% in other countries. Four percent did not remember where they were at first illness. Fifty percent subsequently underwent 1 or more orthopedic surgical procedures to improve their lost limb function.

**TABLE 1.**
**Polio-Related Problems Reported by 100 Postpolio Subjects**

| Problems | % |
|---|---|
| Fatigue | 65 |
| Muscle Weakness | 30 |
| Muscle Pain | 53 |
| Joint Pain | 56 |
| New Numbness | 29 |
| Shake/Twitching | 31 |
| Breathing | 23 |
| Atrophy | 21 |
| Sleeping | 31 |
| Cold Intolerance | 37 |
| Swallowing | 17 |
| Weight Gain | 44 |
| Increased number of falls | 37 |

►

**TABLE 2.**
**Other Current Health Problems Reported by 100 Post-Polio Subjects**

| Problems | % |
|---|---|
| Arthritis | 45 |
| Gastrointestinal | 36 |
| Bladder/Kidney | 23 |
| Gynecological | 20 |
| Sexual | 4 |
| Depression | 34 |
| Pulmonary | 24 |
| Cardiac | 24 |
| Cancer | 8 |
| Stroke | 5 |
| Hypertension | 31 |
| Diabetes | 13 |
| Allergies | 39 |
| Alcohol | 2 |

Table 1 lists the percentages of persons reporting 13 new or increased complaints that are associated with the late effects of polio.

In Table 2, the percentages of participants reporting 14 other current or "new" health complaints are listed. In terms of needing health and human services, 30% stated that they depended on assistance in homemaking, 13% in banking or checking, 14% in transportation, 8% in eating or drinking and 2% in personal care. Eight percent required physical therapy and 6% mental health services. Specific health concerns were voiced by the subjects. Forty-two percent were concerned about proper exercises, 17% equipment, 11% stress management, 8% work problems, 4% transportation, 4% personal finances and 1% personal care capability.

**Disability Change**

Figure 1 illustrates the use of mobility aids at the acute illness time, maximum functional recovery stage and currently. Thirty-two percent report an increase in their reliance on walking aids such as canes, crutches, walkers, orthotics (braces) and wheelchairs. Fifty-seven percent state no change and 11% think that their mobility has improved since maximum recovery.

Twenty percent were at relatively greater risk for post-polio syndrome because they had had the following modified high risk criteria[4]: Age of onset 7 years or later, 3- or 4-limb paralysis at acute illness, 20 or more years since polio and 2 or more major characteristic symptoms. This risk, however, was not construed to mean in our study that the diagnosis of post-polio syndrome would be, in fact, determined in these 20 cases.

The FIM indicated that 52% were less than completely independent in stair climbing, 30% in walking, 13% in car transfers, 6% in bed transfers, 6% in toileting, 5% in dressing upper or lower extremities and 10% bathing. Based on their reporting, all subjects performed independent feeding and grooming as of the date of our study.

**Physical Examination**

Eighty-seven percent had partial to full paralysis of one or more major muscle groups about the hip, knee or ankle in one or both lower extremities. Sixty percent had similar loss of strength in 1 or both upper extremities. Seventy percent had weakness of their neck or trunk. In 7 cases, facial muscle weakness was apparent. All subjects have evidence of flaccid, atrophic, asymmetric muscle weakness or paralysis.

**Body Weight**

Twenty subjects (20%) weighed over 10% of their ideal body weight, 20% and 34%[11]. Two subjects did not have recorded weight. Thirty-one subjects weighed within 10% of their ideal body weight.

**Ambulation**

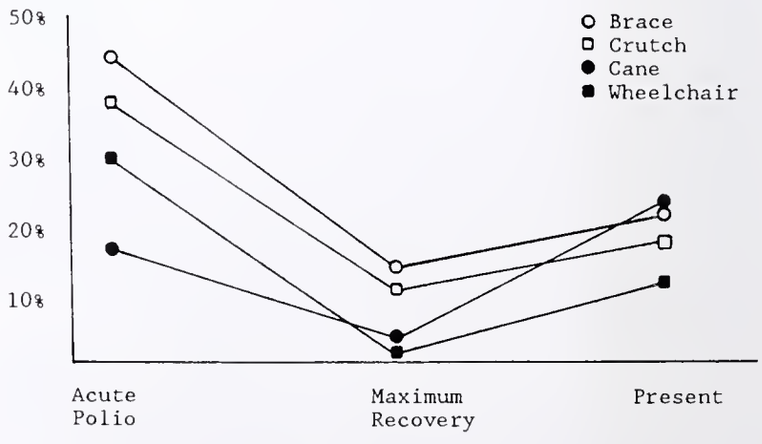
Ninety-seven subjects had valid data on timed, unhurried ambulation on a flat, level surface. The mean velocity was 49.1 meters/minute (standard deviation of 20.7 and range 8.0 to 120.0). The mean steps per minute were 81.6 (standard deviation of 26.1, median 84.0 and range 27.0 to 135).

**Discussion**

The notion that polio survivors can undergo pathophysiologic alterations in their neuromuscular system, decades after the acute illness, challenges the time-honored concept of paralytic poliomyelitis as a permanently stable neurologic condition. The expectation that the attendant disability will also remain stable forever has created the misperception that the complaints of new or increasing disability are scientifically unfounded, part of normal aging, or simply exaggerated in the lay press[1].

Halstead, et al.[4] speculated that post-polio survivors were at greater risk for PPS or PPMA if they had the following 4 risk factors: acute illness in late childhood, paralysis of 3 or 4 limbs, breathing assisted by mechanical respirator, and 2 or more decades of physical disability. In a retrospective study, Klingman, et al.[12] suggested that the more physically active, less impaired polio survivors

Figure 1.
Trends in use of walking aids and wheelchair mobility at 3 points in time, reported by 100 post-polio subjects.



are at greater risk for PPMA. They tend to overexert themselves proportionately more than the more severely disabled polio survivors. This tendency can stress the hyperfunctioning motor units and, based on current theory, hasten the demise of collateral axon sprouts to reinnervated muscle[5].

Our study has identified 20 subjects who did have the high-risk factors for PPS or PPMA. Importantly, however, further medical evaluation is necessary before any conclusions can be drawn regarding the prevalence of PPS or PPMA among the study population, as well as the significance of each self-reported symptom listed on Table 1.

After he/she has ruled out the non-polio related medical illnesses, which can be disabling, or has identified them, the physician should analyze the specific nature of the patient's self-reported disability. A complete disability evaluation consists of a detailed history, physical examination emphasizing the musculoskeletal system, and a functional screen. With the assistance of an experienced physical therapist or occupational therapist, much additional data on physical impairment and disability can be obtained.

In screening for disability, functional assessment instruments like the FIM[9] can aid the physician in assessing the level of dependent behavior in specific mobility and self-care tasks. Although the FIM has been validated for use on every physically disabled person, more quantitative measures of human performance are desirable in following specific disabilities. In this study, ambulation based on time was a method intended to go beyond the FIM in order to quantify the skills of ambulation. The rate of 49.1 meters/minute for study participants was considerably slower than the 60-80 meters/multiple range for able-bodied persons[13]. Such a simple method can be useful in documenting changes in mobility over the years.

Although our subjects exhibited impairments and varying degrees of disability, it is not known whether they are representative of all polio disabled residents in Hawaii. The study group is different in its social attributes, when contrasted with the general population of Hawaii. Three-quarters of the subjects are Caucasian, whereas the latter make up 23.4% of the Hawaii population[14]. They are better educated, in that 98% possess high-school diplomas, as compared with 73.8% of all adults in Hawaii[15]. Two and a half times more test subjects have college degrees and nearly twice as many are professionals. Current efforts are being directed to recruiting a greater cohort of polio-afflicted residents in an attempt to improve the value of the study.

The duration of polio-related disability may have a deleterious effect on natural aging[16-19]. Preliminary analysis, in which our subjects were divided into 2 groups, above and below 60 years of age, strongly suggests that the prevalence of allergies, hypertension, gastrointestinal symptoms, cardiopulmonary disease, and genitourinary complaints is clearly greater in the older group. It is not known, however, to what extent paralytic poliomyetitis, or any other chronic physical disability, can accelerate or modify aging and its attendant diseases[17].

Obesity, regardless of its relationship with aging, has a negative impact on mobility, especially among already physically disabled individuals. In our study, 44% of subjects reported weight gain and 47% registered body weights in excess of 20% of their respective ideal body weights. The degree to which obesity has adversely affected monthly in certain people is not a part of this study.

The finding that 34% of the subjects expressed feelings of depression was alarming but not entirely unexpected, given the the serious nature of their disabilities. Frick[20] states that this depression can be precipitated by the disabled person's encounter with a second disability, that is, the additional occurrence of greater physical disability due to polio. In many cases, counseling by a physician or psychologist can ameliorate his or her passage through difficult phases of psychologic adjustment.

Invaluable psychosocial help can also come from a consumer-organized and -led support group for polio survivors. In response to such a need, the Post-polio Network of Hawaii was started in 1988 as an outgrowth of our study; it now boasts an active membership of more than 100. Meetings are held regularly and feature programs of self-help, lectures, and other informative activities[1,21-22].

The scope of health and social services for aging polio survivors needs further assessment. More than a third of our subjects depend on services from health and social agencies in order to live independently at home. None was institutionalized. (This study, however, did not include home-bound polio survivors.) Homemaking, transportation, and money management were the most frequently cited services needed. Equally important was the finding that nearly half the subjects expressed a clear desire for more or different health and social services, such as proper prescriptive exercises, adaptive equipment, stress management and vocational assistance.

An individualized rehabilitation plan for a polio survivor could include therapeutic exercises, energy-conserving techniques, joint protection, weight reduction, proper body mechanics, medication control, stress management, lifestyle alterations and psychosocial counseling [23]. Some patients can benefit from specialized bracing[8,24], forearm crutches, motorized carts, hand controls for driving, simple work adaptations and other rehabilitative interventions. In rare instances, orthopedic surgery may be indicated[8].

Therapeutic exercises for post-polio patients are not always recommended by the medical community, but they do have a role in general health and fitness[25-28]. Dean and Ross showed that symptomatic patients can improve their functional capacity through a modified aerobics program of horizontal treadmill exercises over a 2-month period[28]. Walking, swimming and other gentle general conditioning exercises have been recommended as against fatigue-provoking, physical activity. Overexertion can result in overwork weakness[25]; theoretically, it can accelerate the deterioration of terminal collateral axonal sprouts in reinnervated muscle[12,18].

**Recommendation**

By recognizing the special needs of polio patients, the

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primary-care physician should consider consultation with medical specialists, psychologists, and rehabilitation therapists who have expertise and interest in various aspects of post-polio evaluation and management. Occasionally, a pulmonologist may need to be consulted to assess the patient's complaints of breathing difficulty[29]. Recurrence of dysphagia or swallowing abnormalities may prompt an evaluation by a speech and language pathologist. Thus, a comprehensive, multidisciplinary approach to the care of post-polio patients can improve the quality of their lives, minimize the risk of further deterioration, and lessen the emotional impact of aging on their disability. ■

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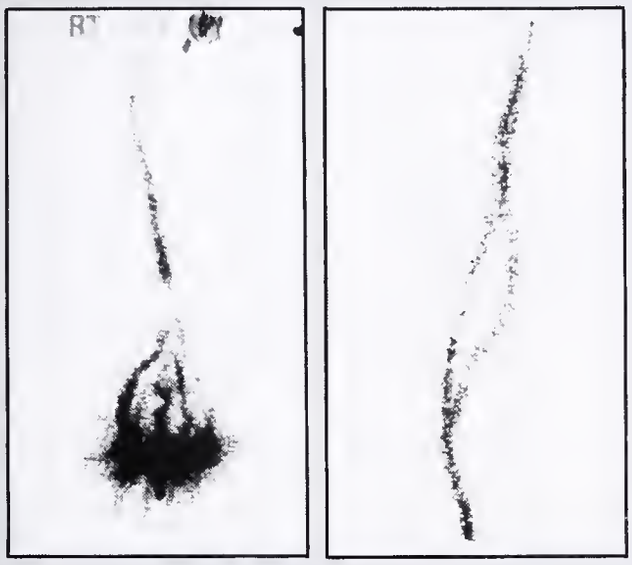
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"THAT ONE'S MY LAWNMOWER WARRANTY. I PUT IT UP TO SEE IF ANYONE REALLY NOTICES."

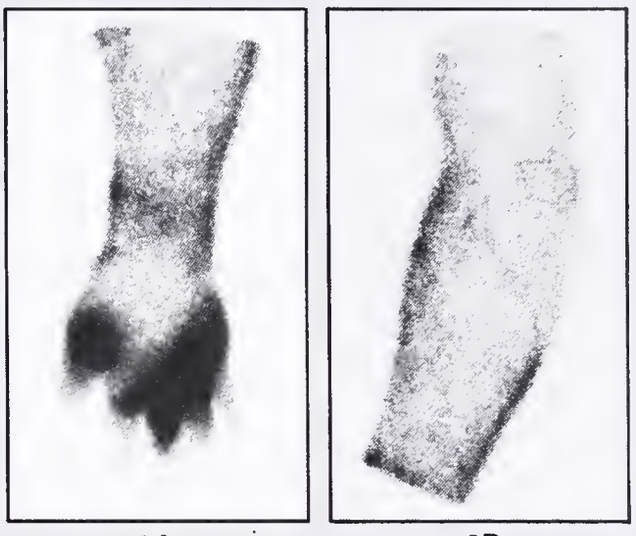
# Nuclear Medicine Teaching File

## NUCLEAR LYMPHANGIOGRAPHY



1. Normal Nuclear Lymphangiogram

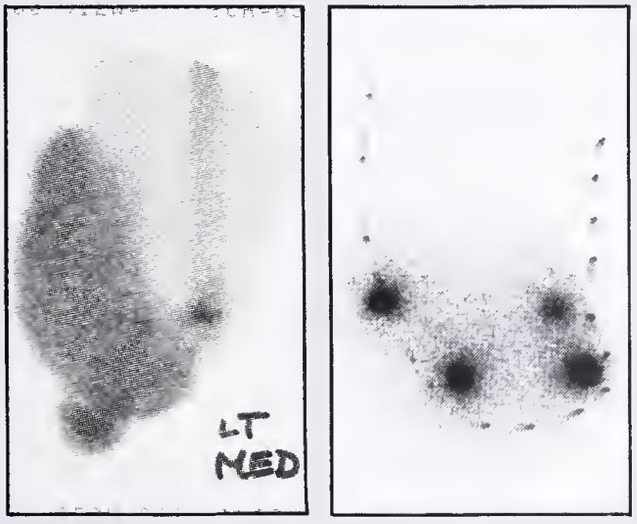
Note rapid lymphatic drainage from each intradermal injection site (between fingers, in web spaces).



2A 2B

2 A & B Abnormal Lymphangiogram

Note absence of lymphatic channels from injection sites; instead there is extensive "dermal backflow" of activity (outlining skin of hand & arm), due to lymphatic obstruction.




3A 3B

3A. Bone scan of amputated left leg with congenital lymphedema.

3B. Lymphangiogram of left leg stump; 1 hour after multiple intradermal injections, note complete absence of lymphatic drainage (lacking even "dermal blackflow").

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# Closed-chest electrical ablation (fulguration) of atrioventricular accessory pathway in the Wolff-Parkinson-White Syndrome: Report of the first case in Hawaii

Edward N. Shen MD*

*Wolff-Parkinson-White (WPW) syndrome is a condition characterized by the presence of an atrioventricular (AV) accessory pathway or bypass tract, which is an extraneous piece of muscular tissue connecting atrium to ventricle. This pathway leads to characteristic findings on the electrocardiogram (EKG). Patients with this syndrome are often asymptomatic, but many frequently have various forms of tachyarrhythmias, some of which may be life-threatening. The conventional therapy is medical, by suppression with antiarrhythmic agents. The established alternative to medical therapy has been surgery, with open-chest excisional ablation of the accessory pathway. In experienced centers, this has a high success rate and holds the promise of cure. Unfortunately, it requires thoracotomy, with its not insignificant associated surgical morbidity.*

In the past few years, a new technique has evolved that allows for non-surgical, closed-chest ablation of the accessory pathway. The procedure is termed "fulguration," and utilizes an electrical charge delivered through specialized catheters. The following is a report on the first such case in the State of Hawaii.

## Case Report

A 21-year-old housewife with WPW syndrome and recurrent symptomatic tachyarrhythmia presented herself with a history that, for over 8 years, she had been having rapid palpitations. The episodes typically had a rapid onset and were frequently associated with chest discomfort and shortness of breath, "as if a ball was inflated in my chest." The episodes lasted from 4-5 minutes to 45 minutes. She also had 5 syncopal episodes.

Finally, she sought medical attention and her 12-lead EKG suggested WPW. Her palpitations were documented to be a narrow complex tachycardia at a rate of 185/min (Figure 1). Better to define the location and conduction properties of her accessory pathway, the mechanism of tachyarrhythmias involved and her responsiveness to antiarrhythmic suppression, she underwent electrophysiologic testing. The baseline study involved 4 catheters, with left and right atrial mapping. Her tachycardia was easily inducible by programmed electrical stimulation. She had an orthodromic tachycardia, which utilized her normal AV conduction system as the antegrade limb and her AV accessory pathway as the retrograde limb of the tachycardia circuit. During tachycardia, atrial mapping revealed that the earliest site of retrograde atrial depolarization was at the ostium of the coronary sinus posteriorly, thus defining the location of the accessory pathway to be posteroseptal (Figure 2).

She was given intravenous (i.v.) verapamil. After the infusion, tachycardia was still inducible. Then she was started on oral flecainide (after informed consent received

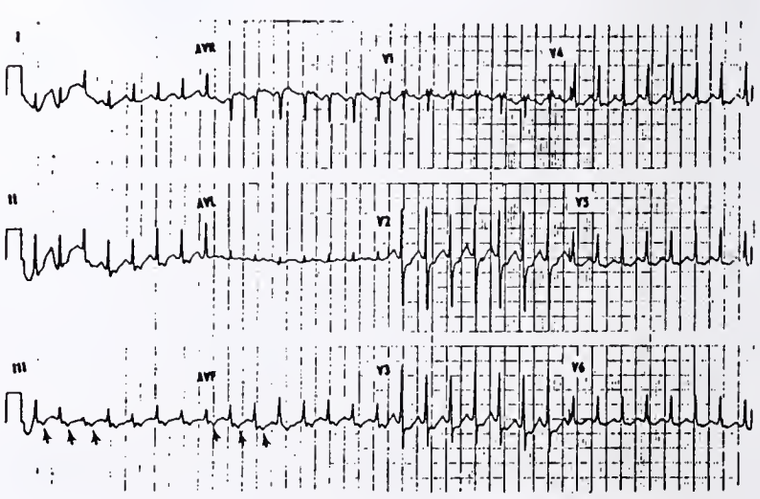



Figure 1.
12-lead EKG documenting the patient's clinical tachycardia. It is a narrow complex tachycardia at a rate of 185/min. Note the retrograde P waves (marked by small arrows).

* Associate Professor of Medicine,
John A. Burns School of Medicine,
University of Hawaii
Director Clinical Electrophysiology
Straub Clinic & Hospital

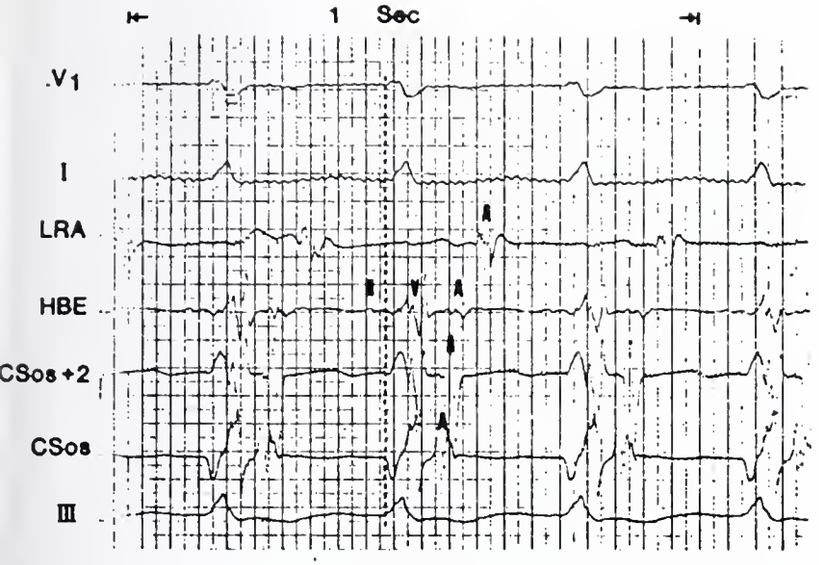
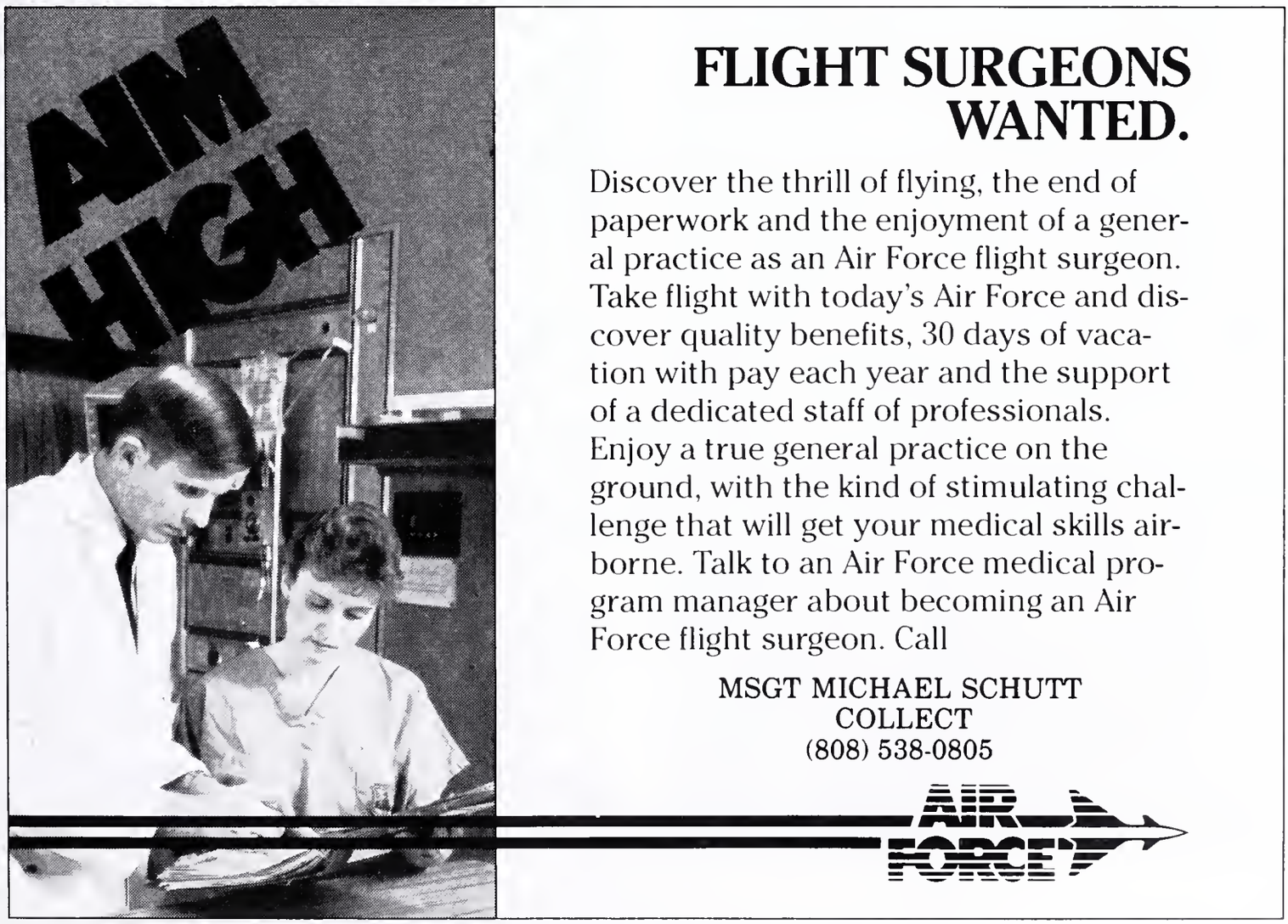



Figure 2.
Surface and intracardiac recordings during tachycardia. The earliest site of retrograde atrial depolarization (A) was at the ostium of the coronary sinus (CSos).
CSos +2 = recording from inside the coronary sinus at 2 cm from the ostium. H = His recording. HBE = His bundle electrogram. LRA = recording from lateral right atrium. V = ventricular electrogram. $V_1$, I, III = surface electrograms $V_1$, I, III.

by experimental protocol). After 4 days of the drug on 100 mg twice a day, she underwent repeat testing. It was found that flecainide produced complete antegrade block in the accessory pathway. There was also complete retrograde block in both the accessory pathway and the AV conduction system. There was no tachycardia inducible at all; therefore, she was sent home on the medication.

Unfortunately, in late April 1989, the national results of the Cardiac Arrhythmia Suppression Trial became known. These indicated that in postmyocardial infarction patients with ventricular ectopy, the drug caused a 2.2-fold increase in mortality as compared with a placebo. Consequently the drug company discontinued the protocol and our patient had to be started on a new agent. She was tried on long-acting procainamide, but developed insomnia as well as gastrointestinal upset. Other antiarrhythmic agents were offered, but she and her husband decided against life-long drug therapy. She also wanted to get pregnant, therefore wanted a "cure." Ablative therapy was offered, and she opted for the non-surgical approach. This was performed May 8, 1989.

The patient gave informed consent under the aegis of an experimental protocol approved by the Human Experimentation Review Board at Straub Clinic and Hospital. Using right internal jugular venous access, a 6-French USCI Zucker catheter was advanced to the right atrium and then into the coronary sinus (a large cardiac vein with its ostium at the lower posterior right atrium). An injection of contrast medium into the coronary sinus under cineangiography defined its exact location and the position of the ostium. The catheter was then replaced by a 6-F USCI quadripolar electrode catheter (with 4 electrodes distally, spaced 1 cm apart). Subsequently, a similar ►



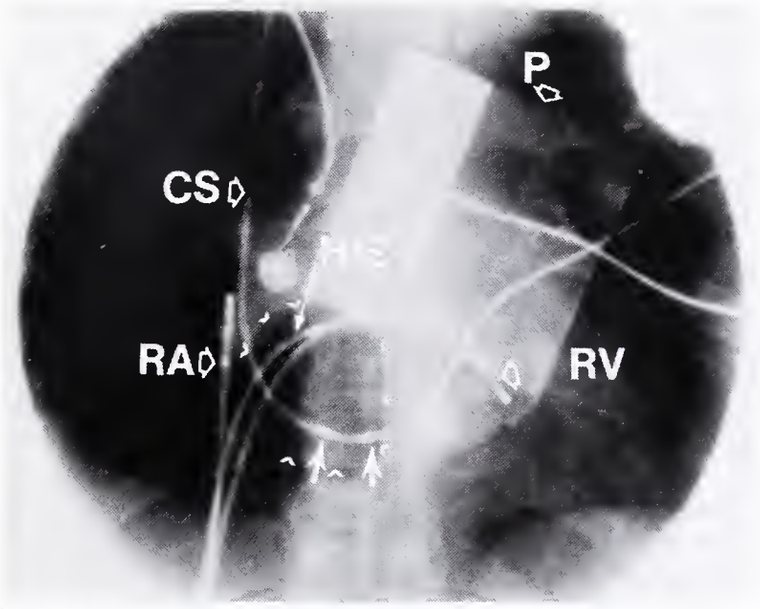



Figure 3.
Catheter position during electrophysiologic testing and fulguration. Radiograph was taken at time of discharge of a 300 joule direct current impulse from the most proximal pair of electrodes (marked by large arrows), at the ostium of the coronary sinus. Note the rapidly forming gas bubble (outlined by small arrows). CS = catheter in coronary sinus. His = catheter in His position. P = electrode patch on back. RA = catheter in right atrium. RV = catheter in right ventricle.

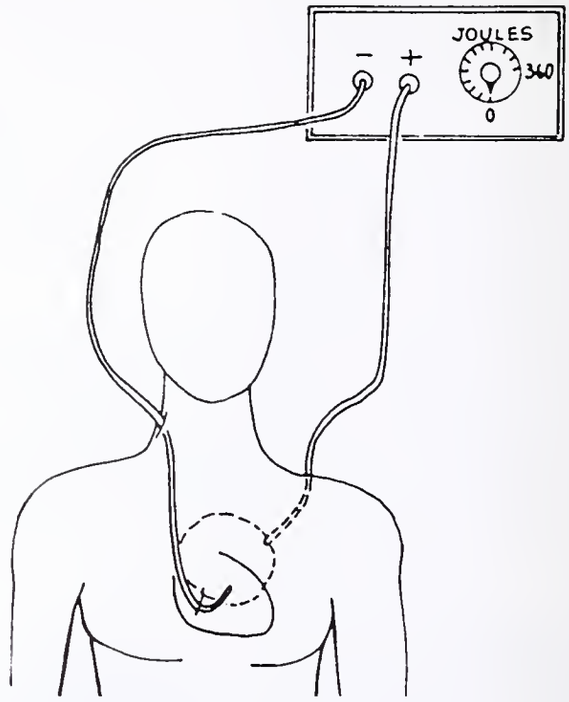



Figure 4.
Diagrammatic scheme of delivery of current during fulguration of posteroseptal accessory pathway. Note insertion of catheter through right internal jugular vein in neck into right atrium and coronary sinus; with the corresponding proximal electrodes serving as negative pole and the electrode back patch serving as positive pole.

quadripolar catheter was advanced through the right femoral vein into the right ventricle. A third electrode catheter was advanced from below to a position across the tricuspid valve for recording of His bundle electrograms, and a fourth electrode catheter was advanced from below to the right atrium. This catheter configuration (Figure 3) would allow for stimulation from left and right atria and the right ventricle, as well as for recording and mapping from both atria and the His position. Tachycardia was then induced electrically; during tachycardia, mapping was repeated. The location of the accessory pathway (as defined from the baseline study) was confirmed. The catheter in the coronary sinus was pulled back slightly so that the most proximal pair of electrodes straddled the ostium (with one electrode just outside and one electrode just inside the opening). These two electrodes were then unipolarized by connecting through a special junction box to the cathode (negative pole) of a conventional direct-current (D/C) defibrillator. The patient had a large electrode patch placed over the mid thoracic spine, which constituted the anode (position pole) (Figure 4).

General anesthesia was provided by intravenous injection of methohexital sodium. A D/C shock of 300 joules was delivered from the defibrillator to the pair of electrodes at the coronary sinus ostium. This electrial charge was directed toward the patch on the patient's back, causing a small localized electrical "burn," damaging the adjacent accessory pathway in the process. After the first shock, the patient developed complete AV block for about 40 seconds (probably related to transient disturbance of the normal conduction system that was close by, in addition to accessory pathway blockade). Normal AV conduction resumed thereafter. A second shock of 200 joules was given in a similar manner in the same location. After the two shocks, the EKG showed no delta waves, and tachycardia could not be induced. During ventricular pacing, the earliest site of retrograde atrial depolarization was no longer at the ostium of the coronary sinus but rather at the septal atrium, suggesting that retrograde conduction could occur only through the normal conduction system and that the accessory pathway was eliminated (Figure 5). An echocardiogram done immediately afterward showed no pericardial effusion (which would

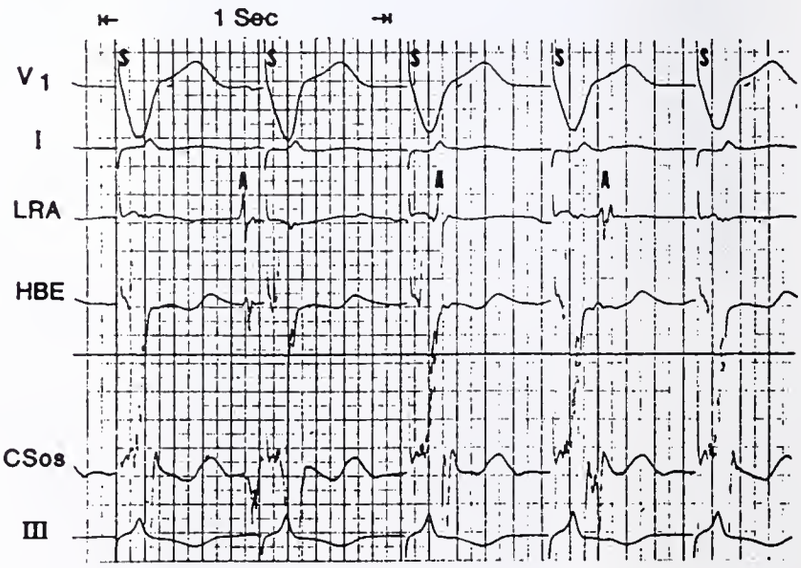



Figure 5.
Right ventricular pacing post-fulguration. Note dissociation between paced ventricular complexes (preceded by pacing spikes marked (S) and atrial electrograms (A), suggesting lack of retrograde accessory pathway conduction. The electrograms are as labeled in figure 3.

occur if there should be a perforation of the coronary sinus, an uncommon but significant complication of this technique). There was no wall motion abnormally to suggest significant myocardial injury. The creatine kinase (CK) enzyme rose the next day to 245 units per liter (normal range 33-220). The MB fraction was elevated to 10.2% (25 units per liter). This is indicative of a minimal amount of myocardial damage, as is generally the rule in this procedure. She was discharged the day after the procedure, without complications.

The patient had a few short episodes of palpitations three weeks later, but has been well since then.

**Discussion**

In 1930, Drs. Louis Wolff, John Parkinson and Paul Dudley White reported in the American Heart Journal 11 cases of patients with bundle-branch block and recurrent tachyarrhythmias[1]. The anatomical substrate of the syndrome is an AV accessory pathway (so-called Kent bundle), which connects the atrium to the ventricle outside of the normal AV conduction system. This causes the condition of "pre-excitation," in which part or all of the ventricular myocardium may be excited by conduction of an atrial impulse earlier than would be expected if the impulse were to travel to the ventricle solely through the normal conduction system. Electrocardiographically[2,3], the WPW syndrome is manifested by a shortened P-R interval ($\leq$0.12 seconds), a slurred upstroke of the QRS complex (so-called delta wave, a consequence of part of the ventricular myocardium being pre-excited), and a widened QRS complex ($\geq$0.12 seconds). The classic WPW syndrome may be encountered in 1 to 3 out of every 1,000 individuals. However, some AV accessory pathways can conduct impulses only in the retrograde direction (from the ventricle to the atrium). Even though these bypass tracts may give rise to re-entrant tachycardias as their overt counterparts do, they will escape detection by the 12 lead EKG during sinus rhythm, since there is no antegrade pre-excitation and the classic findings will not be present.

There are two main forms of arrhythmias associated with the WPW syndrome: Circus movement tachycardia (CMT) or atrial fibrillation (AF) with rapid ventricular response. The CMTs are more precisely referred to as "atrioventricular reciprocating tachycardias," since they have a re-entry mechanism that utilizes both normal and accessory conduction pathways and involves both the atrium and ventricle. Such tachycardias regularly have rates of 160-220 beats per minute and are further defined as either orthodromic or antidromic, depending on the direction of the circulating impulse.

Orthodromic tachycardia accounts for 90%-95% of the CMTs. Here, the tachycardia wavefront travels antegradely from atrium to ventricle down the normal conduction system and returns retrogradely to the atrium via the accessory pathway. The QRS complex is narrow. Because the ventricles are activated only through the normal conduction system, there is no pre-excitation and thus no delta waves. An atrial depolarization always follows each ventricular depolarization, seen on the surface EKG as a P-wave following closely behind each QRS complex but not hidden by it. The R-P interval is shorter than the P-R interval. This was the arrhythmia seen in our patient (Figure 1).

The other form of CMT, the antidromic tachycardia, occurs in 5%-10% of cases. Here, the depolarization wavefront travels in the opposite direction from the previous, and proceeds antegradely via the accessory pathway and retrogradely via the normal conduction system. During this type of tachycardia, the ventricles are depolarized via the accessory pathway only, thus undergoing maximal pre-excitation. In the resulting QRS complex, the delta wave is frequently so exaggerated that it may not be identifiable as a discreet initial slurring. Frequently, this tachycardia is morphologically indistinguishable from ventricular tachycardia.

Patients with WPW syndrome often may suffer from AF. During AF, mutiple irregular, randomized wavefronts of depolarization in the atria bombard the AV node and the accessory pathway at very high rates. The AV node, because of its impulse-slowing properties, generally can conduct only a portion of these impulses and therefore activates the ventricles at a slower rate, usually 100-150 beats per minute. The presence of an accessory pathway changes the picture entirely. Behaving more like myocardial tissue and thus capable of very rapid conduction, the Kent bundle can activate the ventricles at much faster rates, frequently 200-400 beats per minute. The resulting QRS complexes have an irregularly irregular cadence and varying degrees of pre-excitation. This is the arrhythmia that is life-threatening in the syndrome, since a very rapid response may lead to ventricular fibrillation and sudden death. In this syndrome, the risk of sudden death is increased by an accessory pathway that can conduct rapidly (i.e., with a short effective refractory period or ERP). Retrospectively, the risk has also been found to increase with the presence of multiple accessory pathways, and when digoxin is prescribed. Assessing how rapidly the pathway can conduct is part of the value of electrophysiologic testing, since this will allow better definition of the life-threatening potential of this syndrome in each individual patient. In our patient, the accessory pathway ERP was actually quite long, i.e., she was less prone to rapid conduction during AF and to sudden death. Her episodes of syncope were probably related to the rapidity of the orthodromic tachycardia itself (which probably led to hypotension).

In treating patients with WPW syndrome and symptomatic tachyarrhythmias, medical therapy is generally the first approach. Antiarrhythmic drugs may be chosen that either block the AV node (such as digoxin or verapamil) or the accessory pathway (such as the class I antiarrhythmic agents: procainamide or flecainide). By blocking either limb of the tachycardia circuit, perpetuation of a CMT may be prevented. However, if the patient also has AF, then accessory pathway blocking drugs should be used alone and digoxin or i.v. verapamil are contraindicated, because bypass tract conduction may be accelerated by these two agents during AF. If the patient has AF with rapid ventricular response or the risk of sudden death, ablative, curative therapy is preferred. In

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certain cases, especially in young patients who do not wish to take drugs for 40-50 years, or in patients who cannot tolerate medical therapy, ablative therapy should be offered.

Ablative therapy comes in 2 forms: Surgical or non-surgical. The surgical approach always requires thoracotomy and generally needs cardiopulmonary bypass. In the classic "endocardial" approach, the atrium is incised at the site of the accessory pathway and the epicardial fat in the AV groove is dissected backward all the way to the pericardial reflection. The dissection is carried out extensively and widely on both sides of the accessory pathway. The localization of the accessory pathway is aided by preoperative catheter mapping (as was done in our patient), as well as intraoperative mapping. There are good reviews on the detailed surgical technique (as well as of the less conventional "epicardial" approach), so that it need not be discussed here[4]. Generally, with surgery, the success rate in experienced centers is above 95%. The mortality rate is generally 1%-2% and the complication rate is roughly 5%-10%. The complications are generally those associated with open heart surgery. In addition, there is a recuperative phase of 2-4 weeks post-operation, which was avoided in our case.

Fulguration or electrical catheter ablation was a technique pioneered at the University of California at San Francisco by Professor Melvin Scheinman in 1981[5]. The technique involves placing an electrode (typically in one of the bipolar or quadripolar electrode catheters used for electophysiologic studies) close to the site to be ablated. The electrical impulse (provided by a D/C defibrillator) is sent to this electrode and directed toward an electrode patch placed on the body surface (typically on the posterior or left lateral thorax). The amount of current used may vary from 50 to 300 joules. The catheter is routinely inserted through a peripheral vein (femoral, subclavian, or internal jugular) under local lidocaine anesthesia. Placement of the catheter is directed under fluoroscopy and is guided to the proper locus by intracardiac recordings or mapping. At the time of the shock, the patient will require some form of general anesthesia, usually in the form of a short-acting barbiturate. This is necessary because the procedure may be rather painful or provoking of anxiety. Frequently, several shocks are required. Intracardiac recordings and programmed electrical stimulation immediately afterward will define whether the procedure was successful. Typically, there occurs a small elevation of cardiac enzymes post-procedure, suggestive of a minimal amount of localized myocardial damage. The patients are usually fully recovered several hours later.

The earliest fulguration cases were done for ablation of the His bundle. The commonest indication for such ablation is for non-WPW patients with symptomatic atrial fibrillation/flutter with rapid ventricular response refractory to medical therapy. A successful His bundle ablation interrupts the normal conduction pathway and induces complete AV block; the patient will then require a permanent ventricular pacemaker. To date, there is worldwide experience with about 700 patients and the success rate is initially about 70%-75% but is currently close to 90%[6].

Following the initial experience with the His bundle, accessory pathway ablation was begun[7,8]. To date, there is documented experience in about 250 patients[6]. The ideal pathway location is posteroseptal, as in our patient. Fortuitously, this is also the region that is most difficult to approach surgically, in part because of its natural position in the back of the chest, in part also because of the close proximity of the His bundle (in the older literature, surgical excision of a posteroseptal pathway is complicated by a 10% risk of inadvertent complete heart block). The success rate of fulguration in this location is 70%-75%. Fulguration of pathways in other regions of the heart are technically more demanding, because it is difficult to stabilize the catheter in regions outside the coronary sinus. There is probably also a higher risk of cardiac perforation, especially for left lateral pathways that require electrical discharge deep within the coronary sinus itself.

Fulguration has also been attempted, less frequently and with less success, in patients with ventricular tachycardia[9]. In this situation, the catheter is introduced retrogradely through the aortic valve into the left ventricle, to the VT focus previously localized by mapping. The success rate is 40%-50% at best, and it is not suitable for patients with multiple morphologies of VT (suggesting multifocality), and also for patients with very poor left ventricle function (since direct electrical shock on the left ventricular myocardium may cause further deterioration in myocardial function). Recently, the technique has also been applied to AV nodal re-entrant tachycardia[10], in which the tachycardia circuit is localized in and around the AV node. The shock is delivered to a region adjacent to the AV node/His axis. In this case, the purpose is to "modify" rather than ablate, as a successful attempt should leave the patient with intact AV conduction (in contrast to His bundle ablation) but no further inducible tachycardia. Experience with this location is still limited, but the early results are promising.

The acute mortality and morbidity incidental to the fulguration procedure is directly dependent on the location of ablation and the severity of the underlying organic heart disease. It stands to reason that young, healthy patients undergoing His bundle or accessory pathway ablation generally do well, with acute mortality expectedly under 1% and the complication rate probably under 5%. In His bundle ablation, there is also an increased risk of ventricular septal rupture (a case has been reported in a patient with a previous septal infarct and scarring). For VT ablation, a mortality of at least 10% may be expected. VT patients are generally quite ill from their underlying ischemic heart disease or cardiomyopathy, and tend to have poor ventricular function. The patients selected for fulguration frequently are the ones considered too high risk for surgical intervention, and some are indeed already moribund from incessant arrhythmia. A direct shock on the myocardium may lead to transient ventricular dysfunction; in a few patients with low ejection fractions, it has led to cardiogenic shock. Furthermore,

whenever an electric charge is sent through a liquid (such as blood), electrolysis occurs and gas forms. A shock of 50-300 joules may produce a very rapidly expanding gas bubble with internal pressure as high as 7.5 atmospheres[11] (Figure 3). Baro-trauma may occur, and this probably accounts for the few reported cases of coronary sinus perforation or cardiac rupture. In the long term, there is the theoretical possibility that the small scar left by fulguration may serve as an arrhythmogenic focus. Data from the retrospective Percutaneous Cardiac Mapping and Ablation Registry[6] indicates that there is a late sudden death rate of 1.7% per year in His ablation patients (insufficient data in accessory pathway ablation). Close follow-up is, therefore, essential.

Currently, there is much interest in using radiofrequency energy as an alternate power source for catheter ablation[12]. This has the advantage of causing a more localized and controlled form of "heat" damage, but has the disadvantage of limited delivery of energy and probably a lower success rate. Complications should theoretically be lower, however.

## Conclusion

Catheter ablation may do for arrhythmia surgery what percutaneous transluminal coronary angioplasty is doing for coronary artery bypass surgery. For His bundle ablation, fulguration is already the procedure of choice. For accessory pathway ablation, it should also be the procedure of choice for posteroseptal pathways, as in our patient. Perhaps, on refining the technique and with improvement of alternate energy sources (radiofrequency, laser) and better catheter delivery systems, accessory pathways in other locations will be as easily accessible; and VT and other forms of supraventricular tachycardias (such as atrial tachycardia) will also be within reach. Certainly, the usage of the catheter has taken major leaps forward since Werner Forssman first catheterized his own heart in 1929[13]. It is perhaps of some interest to recall that Dr. Forssman was then advised by Dr. Wilhelm His (the discoverer of the His bundle) that plans to record electrical activity inside the heart were probably hopeless. Well . . .? ■

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*(Continued on page 104)* ►



# Rabies Prevention in Hawaii

Daniel B. Fishbein MD*
John M. Corboy MD**
David M. Sasaki DVM, MPH***

*The scientific basis of Hawaii's public health rabies prevention program is discussed, as is a proposed minor modification offered to assist Hawaii residents who use guide dogs and who want to travel out of state. Hawaii's current quarantine program has successfully prevented the introduction of the disease. Alternative programs involve risks that are not easily evaluated.*

## Introduction

Over the years, Hawaii's rabies prevention program has been challenged by special-interest groups and individuals. Requests for exemptions and abolishment of the quarantine have been made almost annually.

Rabies experts at the World Health Organization (WHO) and the Centers for Disease Control (CDC), have periodically reviewed Hawaii's program and carefully examined the alternatives. They currently continue to recommend dog and cat quarantine for rabies-free areas such as Hawaii.

The authors express caution on suggestions for radical changes in the State's rabies prevention program: Rabies is almost always fatal in human beings. The following questions and answers about Hawaii's quarantine are offered for review, to assist physicians in understanding the scientific basis of Hawaii's rabies prevention program, and the strengths and weaknesses of alternative programs.

### 1. Does documentation of rabies vaccination ensure that an animal will not develop rabies after entering Hawaii?

There are two separate issues involved in this question:

1) Does adequate vaccination ensure that the animal will not develop rabies?

2) Can dog or cat records be verified to ensure that the animal actually received the vaccination indicated by the veterinary records?

Rabies vaccines for dogs and cats are licensed in the United States for annual or triennial administration only after undergoing a 1- or 3-year trial (efficacy study), culminating in a challenge with live rabies virus. For licensure of a new rabies vaccine in the United States, the U.S. Department of Agriculture (the agency that licenses animal rabies vaccines) requires that a single dose of the vaccine must protect $\geq 85\%$ of vaccinated animals, whereas $\geq 80\%$ of the control animals succumb to the challenge. Therefore, a licensed rabies vaccine does not have to protect 100% of the challenged animals.

A large number of rabies vaccines and vaccination regimens are used throughout the world. In both the United States and in developing countries, rabies has been documented in dogs with evidence of apparently adequate and up-to-date vaccination (vaccine failures)[1-5], although in most studies of canine rabies the majority (88%-95%)[4,5] of rabid dogs are unvaccinated. Vaccine failures have been attributed to a number of factors: Incomplete immunization (development of rabies less than 30 days after initial vaccination), vaccination after an exposure, suboptimal response to immunization from vaccines of marginal potency[6] and errors in vaccine handling or administration. Moreover, rabies vaccines licensed for use by the Department of Agriculture are not required by law to be 100% effective. The information that follows elaborates on some of these points.

Vaccination after exposure (postexposure prophylaxis) is completely ineffective in animals unless immune globulin is administered concomitantly.[7,8] Rabies vaccines are also less than completely effective if exposure to rabies or experimental challenges occurs within 30 days of the first vaccination. A majority (85%) of the vaccinated dogs developing rabies during two epizootics in Texas in 1976-1979 were incompletely immunized.[4]

Perhaps the most serious weakness of a program that uses documentation of vaccination to prevent the introduction of rabies into rabies-free areas is reliance on certificates of vaccination to document immunity. First, it may be difficult to confirm that the animal entering the state is the one that was vaccinated. In some cases (such as when the dog was vaccinated by someone other than a

*Acting Chief, Epidemiology Section, Viral and Rickettsial Zoonoses Branch, U.S. Centers for Disease Control, Atlanta, Georgia
**Surgeon/Director, Hawaiian Eye Center, Wahiawa, Hawaii
***Public Health Veterinarian, Hawaii Department of Health, Communicable Disease Division, Epidemiology Branch, Honolulu, Hawaii.

For correspondence about the manuscript and request for reprints, contact: Daniel B. Fishbein, MD
Viral and Rickettsial Zoonoses Branch
Division of Viral and Rickettsial Diseases
Center for Infectious Diseases
Mailstop G-13
1600 Clifton Road
Atlanta, GA 30333

private veterinarian), it may be difficult to determine if the certificate is valid. Furthermore, a certificate (or other documentation of vaccination) does not guarantee that the vaccine was potent, was administered correctly, or that the animal responded immunologically to the vaccine. For example, serological response to immunization with some types of vaccine is depressed if the vaccine is administered subcutaneously.[9-11]

Some assurance that a dog or cat did respond to the vaccine can be obtained by documenting the presence of a positive rabies neutralizing antibody titer. Although such a titer is reasonably good evidence that the animal is protected from challenges that occur shortly after the time that the titer was drawn[12], it does not prove that the animal was immune in the past or that it will remain immune years in the future.

Reliance on titers to document vaccination is limited by the inability to differentiate between a titer due to infection by rabies virus and one due to vaccine, ie, a titer may indicate that an animal has been adequately vaccinated or that it has rabies.[7] In studies of animals vaccinated after exposure to rabies, vaccine-induced antibody cannot be differentiated from that due to disease. Antibody response due to infection becomes detectable around the time clinical signs develop. In such experiments, the incubation period (the period between the experimental exposure to rabies and the development of symptoms) is generally quite short. All animals that die, whether vaccinated or not, do so within 21 days of infection.[7] However, much longer incubation periods are well documented in natural settings among vaccinated[1] and unvaccinated[13] animals. The possibility that an animal is incubating rabies can therefore not be completely eliminated by an observation period of four months, as used in Hawaii.

In spite of the aforementioned deficiencies, pre-exposure vaccination of animals in rabies endemic areas has been an effective tool for rabies control during epizootics[15] and has been instrumental in decreasing the incidence of canine rabies in the United States. The amount of risk reduction (ie, decrease in the chance of importation of a case of rabies) that animal vaccination might offer for Hawaii needs to be assessed (see below).

**II. What is the likelihood that a dog or cat incubating rabies would be intercepted by a 4-month quarantine?**

Pre-exposure vaccination and quarantine of dogs serve very different but complementary functions: Vaccination is designed to protect animals before an exposure to the disease, whereas a quarantine program detects animals that are already incubating rabies.

Because vaccines for domestic animals are completely ineffective after an exposure to rabies, vaccination in lieu of quarantine would protect few to none of such animals.

The 4-month quarantine in use by the State of Hawaii is not the only factor responsible for Hawaii's rabies-free status. The quarantine is a final safeguard against a dog or cat that is incubating rabies being brought into the State.

Other sociological, epidemiological and public health factors make the entry of dogs that are incubating rabies into Hawaii unlikely. Perhaps the most important of these is the rarity of canine rabies in the United States today. In 1988 there were only 128 canine rabies cases reported among some 52 million dogs.

**III. What about the countries that do not use a quarantine?**

A quarantine system is one of the two approaches recommended by the World Health Organization (WHO) to prevent the introduction of rabies into geographic areas free of the disease.[5] The alternative recommended by WHO is total prohibition of importation of dogs and cats. Vaccination against rabies is an alternative recommended by WHO *only* for geographic areas "where strict quarantine measures are impractical" such as "countries with extensive land borders."

Although some rabies-free countries use different approaches (such as requiring documented vaccination), these alternatives are not used extensively and are not tested in field settings; alternatives to quarantine must therefore be considered to be untested. Quarantine programs only slightly different from the one used by Hawaii have successfully prevented the introduction of rabies into land areas as large as Australia.

**IV. Could farm animals introduce rabies into Hawaii by biting other animals, humans, or by their flesh being eaten?**

Farm animals may enter Hawaii after a brief holding period. Not only is it extremely unlikely that one of these animals is incubating rabies, but, in addition, cattle and other farm animals do not present a risk to other animals or to humans[15], because they rarely bite if rabid and are not known to initiate epizootics. Although tissues of rabid animals have been shown to be infectious experimentally[16-17], the consumption of meat derived from rabid animals has never been shown to cause human or animal disease in nature.

**V. Could rabies be introduced by a dog that is carrying the disease but never develops symptoms?**

So-called abortive rabies[18] has been demonstrated in the laboratory and in nature. However, all available data suggest that this is extremely rare. In most of the world, healthy-appearing dogs that bite humans are observed for 10 days to determine if they develop clinical rabies. Therefore, abortive rabies must, at this time, be considered a curiosity rather than an event of public health importance.[18]

**VI. Should dogs and cats already in Hawaii be vaccinated as a precautionary measure?**

One of the benefits of being rabies-free is that residents of Hawaii do not need to undergo the time or expense of vaccinating their pets.[19]

It is estimated that residents of the mainland United States spend over $200 million a year on rabies vaccination for dogs and cats alone.[20] Although Hawaii residents are free to vaccinate their pets if they choose, this is unnecessary.[19] This judgment is based on a number of factors. First, our experience is that a rabies outbreak in Hawaii is so unlikely that the expense of routine, repetitive vaccination cannot be justified as compared with

►

other public health priorities. Second, the animal populations potentially at highest risk if exposed to rabies are those that are least likely to be vaccinated, i.e. mongooses or feral domestic animals, rather than the house dog or cat that is rarely allowed to run loose. Finally, if a case of rabies should occur in Hawaii, a contingency plan has been developed that will prevent the spread of the disease.

**VII. Do safe and effective pre-exposure and postexposure vaccine regimens for humans decrease the importance of maintaining Hawaii free of rabies?**

Although humans who undergo rabies postexposure prophylaxis suffer less nowadays than they did at any time in the past, the absence of rabies in Hawaii offers a superior alternative. In the case of almost all animal bites in the State of Hawaii, vaccination of humans is unnecessary. People are not only spared the time, expense, and potential adverse reaction of vaccination, but, perhaps most important, they are able to live without fear of rabies after an exposure to an animal in Hawaii. In view of many other serious threats to their health that Americans face, residents of Hawaii are indeed fortunate in not having to fear rabies.

In rabies-endemic areas, rabies pre-exposure prophylaxis is recommended for certain people (e.g. veterinarians) at risk of inapparent or unrecognized exposure by virtue of their work.[21,22] Members of occupations who would otherwise be at risk of an exposure in rabies-endemic areas do not need to be vaccinated against rabies in Hawaii, although they are free to seek such vaccinations if they choose. Pre-exposure vaccination is not recommended in Hawaii, however, because of the cost and the risk of adverse reactions.

For the population at large, the risk of a rabies exposure in Hawaii is negligible. The people in the quarantine station, who would be the most likely to come into contact with the disease, have the suspect animal confined at all times and would always be able to have any suspicious animal tested. Should an animal in the quarantine station develop rabies, persons who were exposed to that animal would have adequate time to seek the booster vaccinations which they would require, even if they had received pre-exposure vaccination.[20]

Another reason not to administer unnecessary pre-exposure vaccination is the possibility of an allergic reaction.[22-23] About 6% of persons who receive booster immunizations with human diploid cell rabies vaccine (HDCV) develop systemic allergic reations, characterized by a pruritic or urticarial rash and sometimes by angioedema, fever, malaise, arthralgia, arthritis, nausea and vomiting. These symptoms are similar to those of IgE-mediated, delayed hypersensitivity (serum sickness). Although the reaction is rare after primary vaccination, administration of pre-exposure vaccination increases the risk of the syndrome developing if subsequent pre- or postexposure vaccination becomes necessary.

**VIII. Could a case of rabies that occurred in the quarantine facility initiate an outbreak of the disease?**

Rabies is almost always transmitted by the bite of a rabid animal. The source of exposure is usually aggressive animals. As has been stated previously, the risk of a case of rabies occurring in the quarantine station is small. In the remote possibility that a quarantined animal should develop any symptom suggestive of rabies, it would be sacrificed and tested for rabies shortly after symptoms develop. The possibility that this caged (and thereby restrained) dog or cat would bite a wild animal is remote. Should such occur, the intruder would probably be killed or maimed, preventing the exit of the bitten animal from the quarantine station.

In summary, the chance that an epizootic could originate in the quarantine station is virtually nil.

Although experimental evidence suggests that birds and rodents are sometimes susceptible to rabies, the animals have never been known to transmit rabies to humans or to initiate epidemics; rodents are very rarely infected in nature.[24] Rabies is not transmitted by the urine or feces of domestic or wild terrestial animals, so no special precautions are necessary in regard to animal waste at the quarantine facility.

**IX. Can there be any modification of quarantine rules for handicapped people who need guide dogs?**

The chief obstacle to allowing guide dogs quarantine-free entry and exit in and out of the State has been the problem of verification of validity of rabies vaccination in relation to the identity of the animal in question.

There are, currently, approximately 12 guide dogs belonging to residents of the state. The Departments of Agriculture and Health would be willing to consider a pilot program to allow a resident owner of a guide dog to leave the State with the dog, and re-enter without the dog going through quarantine. However, this would require a rabies vaccination to be administered by Department of Agriculture personnel, and the documentation of titers. Upon return, the animal would be re-tested if there was a prolonged absence. In that case, the animal would be placed in quarantine only until the laboratory results were available. The cost of such a program would be borne by the owner of the guide dog.

Such a program, not yet adopted, would be applied only to *resident* owners with *resident* animals in order to permit the owner unrestricted travel out of state, since such animals are known to be rabies-free upon departure from Hawaii and would be extremely unlikely to become infected while absent from Hawaii. This program would *not* apply to animals initially entering the State, or to guide dogs belonging to handicapped individuals desiring to visit or move to Hawaii. ■

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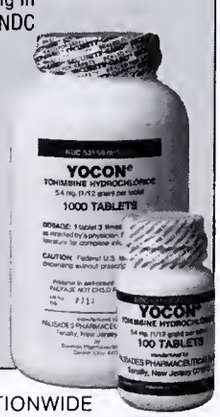
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Yesterday a mango fell
And met with earth casting a spell
Like many falling objects do.

Yellow and pink, its meat was ripe
I felt like crying though I'm not the type
For striking the ground, it split in two.

Crisp sweet treasure on the tree
Now open mush with access free
For ants to invade and me to view.

Perhaps the reason I felt so sad
Was another chance in life gone bad
And those remaining might be few.

Had I but looked with careful eye
I might have seen it framed by sky
And retrieved it before it's becoming stew.

But that was then and I did not
I vowed to harvest on the spot
When change of color gives its clue.

But then today I walked outside
And another mango had burst open wide
Even though its vulnerability I knew.

My noblest intent thus went awry
Of harvesting mangos stil hanging high
As I resolved and was want to do.

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|---|---|---|---|---|---|
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| TRANSMISSION | 5 | 4 | 9 | 9 | 1 |
| RIDE | 1 | 5 | 5 | 10 | 5 |
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| EXTERIOR | 4 | 9 | 4 | 7 | 4 |
| INTERIOR | 3 | 7 | 5 | 7 | 5 |
| COMFORT | 2 | 5 | 7 | 9 | 5 |
| ENTHUSIAST'S CAR | 9 | 10 | 5 | 7 | 5 |
| BEST VALUE | 3 | 4 | 5 | 9 | 3 |
| **TOTAL** | **40** | **64** | **63** | **90** | **43** |

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# INDEX

**Index to Hawaii Medical Journal**
**Volume 48, 1989**

Compiled by Beula Horak of the Hawaii Medical Library
**Title Keyword Index**

**Acquired Immunodeficiency Syndrome** Medical care costs of patients with AIDS in Hawaii, 48(5):194
Presentation of Kaposi's Sarcoma in the Acquired Immune Deficiency Syndrome, 48(4):13
**Addiction** Nicotine addiction, 48(11):485
**Aging** Chronic Illness and Aging Committee, 48(10):414
Meeting of the HMA Chronic Illness and Aging Committee, 48(3):83
**AICD** Automatic implantable cardioverter defibrillator: report of the first two implants in Hawaii, 48(7):262
**AIDS** Medical care costs of patients with AIDS in Hawaii, 48(5):194
Presentation of Kaposi's Sarcoma in the Acquired Immune Deficiency Syndrome, 48(4):131
**Anti-Rh (D)** Therapeutic use of anti-Rh (D) immunoglubulin in thrombocytopenia, 48(9):369
**Art** The power of the art: humanism, healing and healthcare, 48(4):139
The power of the art: humanism, healing and healthcare, 48(9):387
**Asymptomatic** Asymptomatic intrathoracic extramedullary hematopoiesis: a report of three cases, 48(10):430
**Atomic Bomb** Hibakusha '89, 48(9):363 Report on the results of the sixth medical examination of atomic bomb survivors resident in North America (1987), 48(7):283
**Automatic Implantable Cardioverter Defibrillator** Automatic implantable cardioverter defibrillator: report of the first two implants in Hawaii, 48(7):262
**Bacteremia** Pneumococcal bacteremia in Hawaii: initial findings of a pneumococcal disease prevention project, 48(12):513
**Bilirubin** Delta bilirubin, 48(8):302
**Carcinoma** Sebaceous gland carcinoma of the eyelids in Hawaii, 48(5):165
**Cauliflower Growths** Cauliflower growths in ulcers of leprosy — a question of malignancy, 48(4):129
**Chemically Dependent** Pain management in the chemically dependent patient, 48(11):491
**Child Health** The medical home and PL 99-457, 48(12):529
**Chlamydia Trachomatis** Chlamydia Trachomatis: a frequently overlooked public health menace, 48(5):156
**Chronic Illness** Chronic Illness and Aging Committee, 48(10):414 Meeting of the HMA Chronic Illness and Aging Committee, 48(3):83
**Clinical Pathologist's Easy Chair** Delta bilirubin, 48(8):30
Human chorionic gonadotropin, 48(4):143
**Cocaine** Cocaine abuse and its treatment, 48(11):462 Medical complications of the use of cocaine, 48(11):461
**Conference Report** The power of the art: humanism, healing and healthcare, 48(9):387
**Corrections** The corrections department: the forgotten branch of the mental health system, 48(3):91
**Crisis Screening** Crisis screening and diversion services, 48(3):73
**Crystal Methamphetamine** Crystal methamphetamine-induced acute pulmonary edema: a case report, 48(11):457
**Dapsone** Therapeutic use of Dapsone in idiopathic thrombocytopenic purpura, 48(7):279
**Delta Bilirubin** Delta bilirubin, 48(8):302
**Diagnostic Tests** Common diagnostic tests: use and interpretation, 48(2):7
**Dispersion** The dispersion within DRGs as compared with other grouping models, 48(6):237
**Diversion** Crisis screening and diversion services, 48(3):73
**DRG** The dispersion within DRGs as compared with other grouping models, 48(6):237
**Drugs** Street drugs: everyone's business, 48(11):452
**Editorials** The 44th anniversary, 48(8):295
Care of the mentally ill, 48(3):55

## CLOSED CHEST *(Continued from page 97)*

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Children, 48(11):451
The doctor can't be bothered; but his staff is! 48(6):219
Gout, 48(7):259
Hospital utilization, 48(4):117
Marcus Welby is dead, 48(12):508
MAST, 48(10):418
More on the seriously disabled mentally ill in Hawaii, 48(6):219
A new acronym: ETs, 48(9):355
One epidemic after another, 48(5):155
Our credo: a cap on costs equals reduction in quantity and quality of care, 48(10):413
Pneumovax, 48(12):508
Special issue (Street Drugs), 48(11):448
Stingray wounds, 48(5):155
Students' writings, 48(4):117
Substance abuse, 48(11):448
There must be a better way, 48(1):589
Tort reform, 48(2):9
The transition inter-regnum, 48(1):589
The war on drugs, 48(11):448
We object! 48(6):217
What does HMA do? 48(1):590
What is "Medical Care"? 48(8):295
**Emergency Medical Services** MAST: an integral part of Hawaii State Emergency Medical Services, 48(10):421
**Emrick, Robert J., MD** Robert J. Emrick, MD, 48(2):10
**Environmentally Induced** New mandated reporting requirements for physicians: environmentally induced illness and injury, 48(8):298
**Extramedullary** Asymptomatic intrathoriacic extramedullary hematopoiesis: a report of three cases, 48(10):430
**Eyelids** Sebaceous gland carcinoma of the eyelids in Hawaii, 48(5):165
**From the Director of Health** Meeting the challenge of Hawaii's mental health crisis: new opportunities and innovations in the state mental health system for the 1990s, 48(3):55
**From the President** The RBRVS study, 48(1):594
**Gout** Triumph and tragedy, 48(7):268
**Hand** Injection injuries of the hand: caveat doctor, 48(9):364
**Hawaii** An analysis of hospital utilization in Hawaii, 48(4):118
Automatic implantable cardioverter defibrillator: report of the first two implants in Hawaii, 48(7):262
Citizens' groups rank Hawaii 51st in the nation, 48(3):60
Hawaii's residential alternative for the seriously mentally disabled person, 48(3):85
History of the care of the seriously mentally ill in Hawaii, 48(3):62
Home monitoring in Hawaii: the first 1,000 patients, 48(8):304
MAST: an integral part of Hawaii State Emergency Medical Services, 48(10):421
Medical care costs of patients with AIDS in Hawaii, 48(5):194
The medical home and PL 99-457, 48(12):529
Outpatient services to the seriously disabled mentally ill in Hawaii, 48(3):89
Pneumococcal bacteremia in Hawaii: initial findings of a pneumococcal disease prevention project, 48(12):513
Psychosocial vocational rehabilitation services in Hawaii, 48(3):78
Sebaceous gland carcinoma of the eyelids in Hawaii, 48(5):165
**Hawaii State Hospital** Role of Hawaii State Hospital in the care of the seriously disabled mentally ill, 48(3):67
**Healing** The power of the art: humanism, healing and healthcare, 48(4):139
The power of the art: humanism, healing and healthcare, 48(9):387
**Healthcare** The power of the art: humanism, healing and healthcare, 48(4):139
The power of the art: humanism, healing and healthcare, 48(9):387

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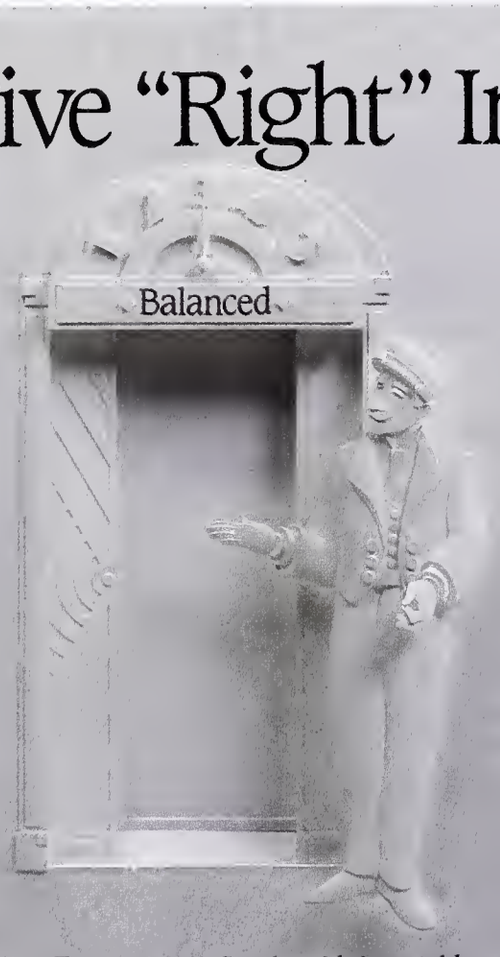
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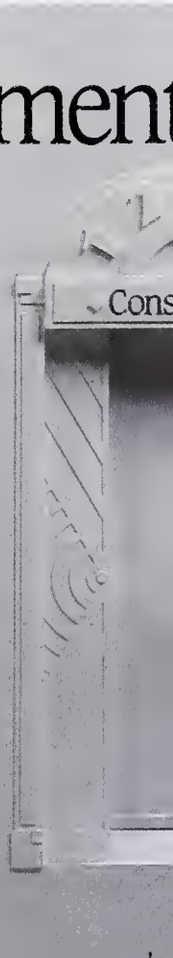
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**Hematopoiesis** Asymptomatic intrathoracic extramedullary hematopoiesis: a report of three cases, 48(10):430
**Hibakusha** Hibakusha '89, 48(9):363
Report on the results of the sixth medical examination of atomic bomb survivors resident in North America (1987), 48(7):283
**History** History of the care of the seriously mentally ill in Hawaii, 48(3):62
**HMA** Chronic Illness and Aging Committe, 48(10):414
HMA policy regarding midwifery, 48(9):404
Meeting of the HMA Chronic Illness and Aging Committee, 48(3):83
Report of the HMA President, 48(12):510
Summary of the actions of the House of Delegates, October 16, 1988, 132nd Annual Meeting—Kailua-Kona, Hawaii, Kona Surf Resorts, 48(1):600
**Home** Home monitoring in Hawaii, the first 1,000 patients, 48(8):304
**Hospital Utilization** An analysis of hospital utilization in Hawaii, 48(4):118
**Human Chorionic Gonadotropin** Human chorionic gonadotropin, 48(4):143
**Humanism** The power of the art: humanism, healing and healthcare, 48(4):139
The power of the art: humanism, healing and healthcare, 48(9):387
**Idiopathic Thrombocytopenic Purpura** Therapeutic use of Dapsone in idiopathic thrombocytopenic purpura, 48(7):279
**Immunoglobulin** Therapeutic use of anti-Rh (D) immunoglobulin in thrombocytopenia, 48(9):369
**In Memoriam** Robert J. Emrick, MD, 48(2):10
**Index** Index to Hawaii Medical Journal Volume 47, 1988, 48(3):98
**Injection** Injection injuries of the hand: caveat doctor, 48(9):364
**Injuries** Injection injuries of the hand: caveat doctor, 48(9):364
**Instructions** Instructions to authors of Hawaii Medical Journal, 48(6):244
**Interpretation** Common diagnostic tests: use and interpretation, 48(2):7
**Intrathoracic** Asymptomatic intrathoracic extramedullary hematopoiesis: a report of three cases, 48(10):430
**Joint Venture** Joint venture acquisition of expensive medical technology by Oahu hospitals, 48(8):328
**Kaposi's Sarcoma** Presentation of Kaposi's Sarcoma in the Acquired Immune Deficiency Syndrome, 48(4):131
**Leprosy** Cauliflower growths in ulcers of leprosy — a question of malignancy, 48(4):129
**Letters to the Editor** Re: attestation, 48(9):355
Re: attestation, 48(8):297
Re: autologous transfusion, 48(12):538
Re: Hawaii Medical Journal, 48(8):297
Re: HMA resolution, 48(5):155
Re: medical practice, 48(4):113
Re: medical practice, 48(7):259
**Liability** Professional liability: let's try something new, 48(2):16
**Lithotripsy** Joint venture acquisition of expensive medical technology by Oahu hospitals, 48(8):328
**Magnetic Resonance Imaging** Joint venture acquisition of expensive medical technology by Oahu hospitals, 48(8):328
**Malignancy** Cauliflower growths in ulcers of leprosy — a question of malignancy, 48(4):129
**Malpractice** Medical charts and malpractice: how to avoid costly errors and omissions, 48(1):596
**MAST** MAST: an integral part of Hawaii State Emergency Medical Services, 48(10):421
**Medicaid** Medicaid recipients and psychiatric treatment, 48(6):221
**Medical Charts** Medical charts and malpractice: how to avoid costly errors and omissions, 48(1):596
**Medical Costs** Medical care cost of patients with AIDS in Hawaii, 48(5):194
**Medical Home** The medical home and PL 99-457, 48(12):529
A medical home for every child, 48(12):529
**Medical Technology** Joint venture acquisition of expensive medical technology by Oahu hospitals, 48(8):328
**Mental Health System** The corrections department: the forgotten branch of the mental health system, 48(3):91
The first shall be last; but can the last be first?, 48(3):93
Meeting the challenge of Hawaii's mental health crisis: new opportunities and innovations in the state mental health system for the 1990s, 48(3):55
**Mentally Ill** Citizens' groups rank Hawaii 51st in the nation, 48(3):60
The corrections department: the forgotten branch of the mental health system, 48(3):91
Crisis screening and diversion services, 48(3):73
The first shall be last; but can the last be first?, 48(3):93
The general hospitals' role in the care of the seriously disabled mentally ill, 48(3):70
Hawaii's residential alternative for the seriously mentally disabled person, 48(3):85
History of the care of the seriously mentally ill in Hawaii, 48(3):62
Outpatient services to the seriously disabled mentally ill in Hawaii, 48(3):89
Psychosocial vocational rehabilitation services in Hawaii, 48(3):78
Role of Hawaii State Hospital in the care of the seriously disabled mentally ill, 48(3):67
**Methamphetamine** Crystal methamphetamine-in-

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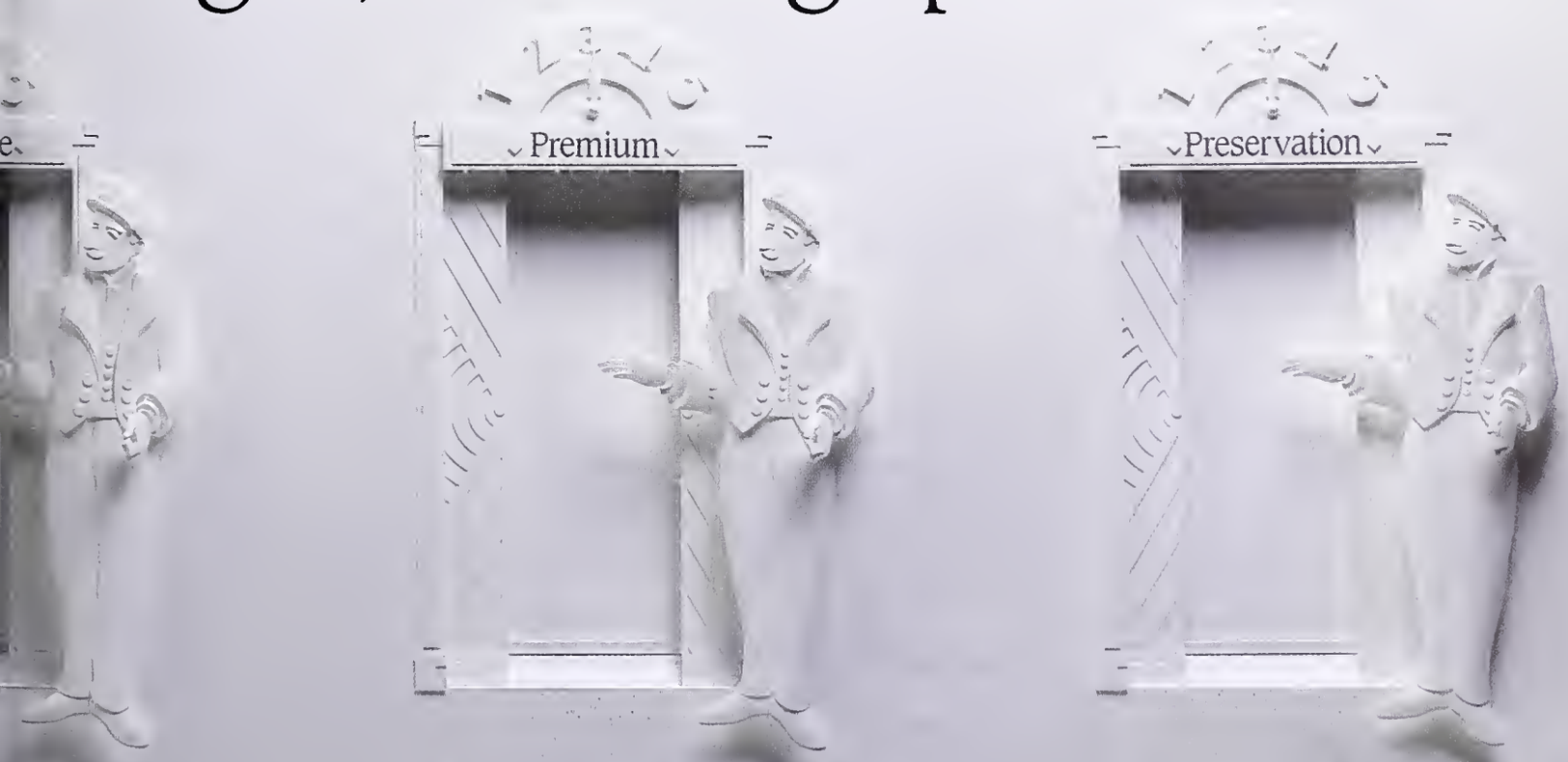
duced acute pulmonary edema: a case report, 48(11):457
**Midwifery** HMA policy regarding midwifery, 48(9):404
**Monitoring** Home monitoring in Hawaii: the first 1,000 patients, 48(8):304
**Nicotine** Nicotine addiction, 48(11):485
**Oahu** Joint venture acquisition of expensive medical technology by Oahu hospitals, 48(8):328
**Outpatient** Outpatient services to the seriously mentally ill in Hawaii, 48(3):89
**Pain** Pain management in the chemically dependent patient, 48(11):491
**Pituitary Tumors** Transsphenoidal surgery for pituitary tumors, 48(2):12
**PL 99-457** The medical home and PL 99-457, 48(12):529
**Pneumococcal** Pneumococcal bacteremia in Hawaii: initial findings of a pneumococcal disease prevention project, 48(12):513
**Polymerase Chain Reaction** The polymerase chain reaction and its applications, 48(4):125
**Prevention** Pneumococcal bacteremia in Hawaii: initial findings of a pneumococcal disease prevention project, 48(12):513
**Pseudothrombocytopenia** Pseudothrombocytopenia, 48(5):170
**Psychiatric Treatment** Medicaid recipients and psychiatric treatment, 48(6):221
**Psychosocial** Psychosocial vocational rehabilitation services in Hawaii, 48(3):78
**Public Health** Chlamydia Trachomatis: a frequently overlooked public health menace, 48(5):156
**Pulmonary Edema** Crystal methamphetamine-induced acute pulmonary edema: a case report, 48(11):457
**RBRVS** The RBRVS study, 48(1):594
**Rehabilitation** Psychosocial vocational rehabilitation services in Hawaii, 48(3):78
**Reporting Requirements** New mandated reporting requirements for physicians: environmentally induced illness and injury, 48(8):298
**Residential** Hawaii's residential alternative for the seriously mentally disabled person, 48(3):85
**Resource Based Relative Value Scale** The RBRVS study, 48(1):594
**Sebaceous Gland** Sebaceous gland carcinoma of the eyelids in Hawaii, 48(5):165
**Seriously Disabled Mentally Ill** Citizens' groups rank Hawaii 51st in the nation, 48(3):60
The corrections department: the forgotten branch of the mental health system, 48(3):91
Crisis screening and diversion services, 48(3):73
The first shall be last; but can the last be first? 48(3):93
The general hospitals' role in the care of the seriously disabled mentally ill, 48(3):70
Hawaii's residential alternative for the seriously mentally disabled person, 48(3):85
History of the care of the seriously mentally ill in Hawaii, 48(3):62
Outpatient services to the seriously disabled mentally ill in Hawaii, 48(3):89
Psychosocial vocational rehabilitation services in Hawaii, 48(3):78
Role of Hawaii State Hospital in the care of the seriously disabled mentally ill, 48(3):67
**Stingray** Supraventricular bigeminy following a stingray envenomation: a case report, 48(5):162
**Street Drugs** Street drugs: everyone's business, 48(11):452
**Supraventricular Bigeminy** Supraventricular bigeminy following a stingray envenomation: a case report, 48(5):162
**Survivors** Hibakusha '89, 48(9):363
Report on the results of the sixth medical examination of atomic bomb survivors resident in North America (1987), 48(7):283
**Temporomandibular Joint** Current perspectives in the management of temporomandibular joint disorders, 48(12):520
**Thrombocytopenia** Pseudothrombocytopenia, 48(5):170
Therapeutic use of anti-Rh (D) immunoglobulin in thrombocytopenia, 48(9):369
**Transsphenoidal** Transsphenoidal surgery for pituitary tumors, 48(2):12
**Vocational** Psychosocial vocational rehabilitation services in Hawaii, 48(3):78

**Index to Hawaii Medical Journal**
**Volume 48, 1989**

Compiled by Beula Horak of the
Hawaii Medical Library
**Author Index**

**Abou-Sayf FK** 48(4):118; 48(5):194; 48(6):237
**Arakaki A** 48(3):85
**Arnold HL Jr** 48(8):297
**Atkinson RE** 48(9):364
**Azuma S** 48(7):262
**Betwee J** 48(7):259
**Bium B** 48(4):113; 48(8):297
**Bonham RT** 48(10):421
**Brady SK** 48(11):448
**Campbell JF** 48(12):513
**Chun WK** 48(6):221
**Cummons CL** 48(10):421
**Dameron T** 48(3):67
**Dixon AC** 48(10):430

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## INDEX *(Continued from page 107)*


**Donohue MA** 48(12):513
**Doo G** 48(2):12
**Duvauchelle D** 48(4):129
**Elpern DJ** 48(4):139
**Fong BW** 48(2):7
**French BP** 48(10):421
**Frohlich J** 48(12):538
**Fujioka G** 48(3):89
**Fukunaga FH** 48(4):143; 48(8):302
**Goldstein N** 48(4):129
**Gudeman H** 48(3):67
**Hayashida C** 48(8):328
**Hicks RD** 48(11):462; 48(11):491
**Ho RC** 48(10):430
**Holzgang AJ** 48(3):70
**Horak B** 48(3):98
**Ikeda T** 48(5):162
**Ikezaki FM** 48(7):268
**Imbeault B** 48(3):60
**Itagaki RK** 48(7):262
**Jacobs LS** 48(3):73
**Jim RT** 48(5):170; 48(7):279; 48(9):369
**Kam TH** 48(11):457
**Kamisugi A** 48(12):520
**Katz AR** 48(5):156
**Kunimoto AR** 48(12):510; 48(1):594
**Leland T** 48(3):89
**Lewin JC** 48(3):55
**Light ML** 48(8):304
**Lundstrom J** 48(3):85
**Marzolf JR** 48(5):194
**Matsumoto I** 48(3):78
**McDonnell JT** 48(9):355
**Mee-Lee D** 48(3):93
**Milbourne A** 48(4):125
**Mochizuki RB** 48(12):513
**Moser SM** 48(8):298
**Murakami T** 48(10):430
**NaPier BI.** 48(1):596
**NaPier PM** 48(1):596
**Nakamura DS** 48(7):262
**Nakamura JM** 48(4):125; 48(10):430
**Nakamura S** 48(4):125
**Nelson AR** 48(2):16
**Nestor TA** 48(11):457
**Nevin-Woods CL** 48(12):513
**Nicholson MW** 48(2):12
**Parsa FD** 48(5):165
**Reppun JI** 48(2):9; 48(3):55; 48(3):83; 48(4):117; 48(4):117; 48(5):155; 48(5):155; 48(6):217; 48(6):219; 48(6):219; 48(7):259; 48(7):283; 48(8):295; 48(8):295; 48(9):355; 48(9):363; 48(9):387; 48(10):413; 48(10):414; 48(10):418; 48(11):448; 48(11):448; 48(11):451; 48(12):508; 48(12):508; 48(12):529; 48(1):589; 48(1):589; 48(1):590
**Rideley DE** 48(3):78
**Roseman C** 48(8):328
**Schroffner W** 48(2):12
**Schultz T** 48(11):457
**Scully NM** 48(7):262
**Shen EN** 48(7):262
**Sheridan MS** 48(8):304
**Sia CC** 48(12):529
**Slade J** 48(11):485
**Spika JS** 48(12):513
**Stenson R** 48(8):328
**Stewart JI.** 48(12):529
**Su'a F** 48(11):452
**Tabrah FL** 48(5):155
**Takata A** 48(3):62
**Tamamoto WI** 48(11):457
**Thorburn KM** 48(3):91
**Tom LA** 48(4):131
**Wallach SJ** 48(11):461
**Wessberg GA** 48(12):520

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## CONTENTS

**EDITORIAL** 119
**HMSA**
J.I. Frederick Reppun, MD

**LETTER TO THE EDITOR** 122
**HIV and Healthcare Workers**
Frank E. Ceccarelli MD

**HIGHLIGHTS OF THE HMA COUNCIL MEETING** 120
**February 2, 1990**

**IN MEMORIAM: WILLIAM M. WALSH MD** 120

**HIGHLIGHTS OF THE SPECIAL HMA COUNCIL MEETING** 121
**March 9, 1990**

**THE RELEGATION OF PATIENTS TO LONG-TERM CARE:** 124
**THE KUAKINI EXPERIENCE**
Hayato Yamanaka PhD
Cullen T. Hayashida PhD

**THE COMBINED USE OF BUSULFAN AND HYDROXYUREA** 133
**IN THE TREATMENT OF CHRONIC MYELOID LEUKEMIA**
Robert T.S. Jim MD

**NEWS AND NOTES** 134
Henry Yokoyama MD

**COUNCIL CAPERS** 140
**February 2, 1990**
Denis J. Fu MD

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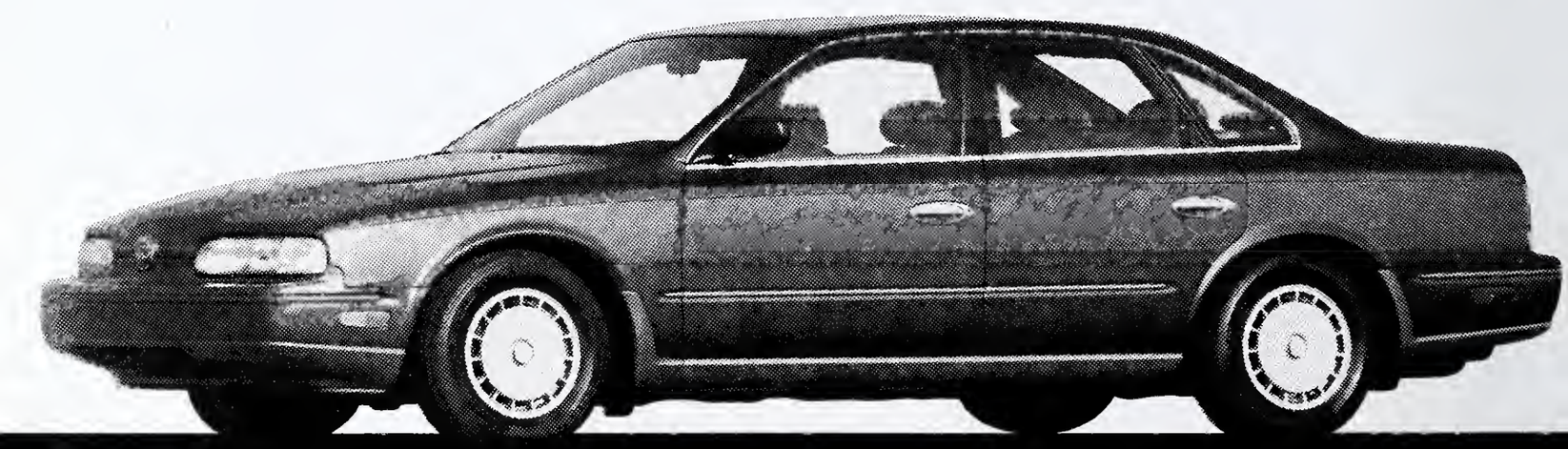
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VASOTEC is available in 2.5-mg, 5-mg, 10-mg, and 20-mg tablet strengths.

**Contraindications:** VASOTEC® (Enalapril Maleate, MSD) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

**Warnings:** *Angioedema.* Angioedema of the lace, extremities, lips, tongue, glottis, and/or larynx has been reported in patients treated with ACE inhibitors, including VASOTEC. In such cases, VASOTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been confined to the face and lips, the condition has generally resolved without treatment, although antihistamines have been uselul in relieving symptoms. Angioedema associated with laryngeal edema may be fatal. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mL to 0.5 mL), should be promptly administered.** (See ADVERSE REACTIONS.)

*Hypotension.* Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Patients with heart failure given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are fottowed; caution should be observed when initiating therapy. (See DOSAGE AND ADMINISTRATION.) Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diurelic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion of any etiology. It may be advisable to eliminate the diuretic (except in patients with heart failure), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIONS, *Drug Interactions* and ADVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the first two weeks of treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident. If excessive hypotension occurs, the patient should be placed in the supine position and, if necessary, receive an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further doses of VASOTEC, which usually can be given without difficulty once the blood pressure has stabilized. If symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant diuretic may be necessary.

*Neutropenia/Agranulocytosis:* Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

**Precautions:** *General. Impaired Renal Function.* As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-atdosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

**Evaluation of patients with hypertension or heart failure should always include assessment of renal function.** (See DOSAGE AND ADMINISTRATION.)

*Hyperkalemia.* Elevated serum potassium (>5.7 mEq/L) was observed in approximately 1% of hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cauliously, if at all, with VASOTEC. (See *Drug Interactions.*)

*Surgery/Anesthesia.* In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

*Information for Patients:*

*Angioedema.* Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

*Hypotension.* Patients should be cautioned to report lightheadedness, especially during the first few days of therapy. If actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

*Hyperkalemia:* Patients should be told not to use salt substitutes containing potassium without consulting their physician.

*Neutropenia.* Patients should be told to report promptly any indication of infection (e.g., sore throat, fever) which may be a sign of neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

*Drug Interactions.*

*Hypotension: Patients on Diuretic Therapy.* Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and DOSAGE AND ADMINISTRATION.)

*Agents Causing Renin Release.* The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

*Other Cardiovascular Agents:* VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyldopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence of clinically significant adverse interactions.

*Agents Increasing Serum Potassium:* VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

*Lithium.* Lithium toxicity has been reported in patients receiving lithium concomitantly with drugs which cause elimination of sodium, including ACE inhibitors. A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation of both drugs. It is recommended that serum lithium levels be monitored frequently if enalapril is administered concomitantly with lithium.

*Pregnancy – Category C:* There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enatapril to pregnant hamsters.

There are no adequate and well-controlled studies of enalapril in pregnant women. However, data are available that show enalapril crosses the human placenta. Because the risk of fetal toxicity with the use of ACE inhibitors has not been clearly defined, VASOTEC® (Enalapril Maleate, MSD) should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Postmarketing experience with all ACE inhibitors thus far suggests the following with regard to pregnancy outcome. Inadvertent exposure limited to the first trimester of pregnancy has not been reported to affect fetal outcome adversely. Fetal exposure during the second and third trimesters of pregnancy has been associated with fetal and neonatal morbidity and mortality.

When ACE inhibitors are used during the later stages of pregnancy, there have been reports of hypotension and decreased renal perfusion in the newborn. Oligohydramnios in the mother has also been reported, presumably representing decreased renal function in the fetus. Infants exposed *in utero* to ACE inhibitors should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support of blood pressure and renal perfusion with the administration of fluids and pressors as appropriate. Problems associated with prematurity such as patent ductus arteriosus have occurred in association with maternal use of ACE inhibitors, but it is not clear whether they are related to ACE inhibition, maternal hypertension, or the underlying prematurity.

*Nursing Mothers:* Milk in lactating rats contains radioactivity following administration of $^{14}C$ enalapril maleate. It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be exercised when VASOTEC is given to a nursing mother.

*Pediatric Use:* Safety and effectiveness in children have not been established.

**Adverse Reactions:** VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 2987 patients.

*HYPERTENSION:* The most frequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were: diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

*HEART FAILURE.* The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial infarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each category:

*Cardiovascular.* Cardiac arrest, myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*); pulmonary embolism and infarction, pulmonary edema, rhythm disturbances; atrial fibrillation; patpitation.

*Digestive.* Ileus, pancreatitis, hepatitis (hepatocellular or chotestatic jaundice), melena, anorexia, dyspepsia, constipation, glossitis, stomatilis, dry mouth.

*Musculoskeletal:* Muscle cramps.

*Nervous/Psychiatric.* Oepression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

*Urogenital.* Renal failure, oliguria, renal dysfunction (see PRECAUTIONS and OOSAGE AND ADMINISTRATION).

*Respiratory:* Bronchospasm, rhinorrhea, sore throat and hoarseness, asthma, upper respiratory infection.

*Skin:* Exfoliative dermatitis, toxic epidermal necrolysis, Stevens-Johnson syndrome, herpes zoster, erythema multiforme, urticaria, pruritus, alopecia, flushing, hyperhidrosis.

*Special Senses:* Blurred vision, taste alteration, anosmia, tinnitus, conjunctivitis, dry eyes, tearing.

A symptom complex has been reported which may include a positive ANA, an elevated erythrocyte sedimentation rate, arthralgias/arthritis, myalgias, fever, serositis, vasculitis, leukocytosis, eosinophilia, photosensitivity, rash, and other dermatologic manifestations.

*Angioedema:* Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

*Hypotension.* In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause for discontinuation of therapy in 1.9% of patients with heart failure. (See WARNINGS.)

*Clinical Laboratory Test Findings:*

*Serum Electrolytes.* Hyperkalemia (see PRECAUTIONS), hyponatremia.

*Creatinine, Blood Urea Nitrogen.* In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation of VASOTEC and/or other concomitant diuretic therapy, were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients.

*Hemoglobin and Hematocrit:* Small decreases in hemogtobin and hematocrit (mean decreases of approximately 0.3 g% and 1.0 vol %, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% of patients discontinued therapy due to anemia.

*Other (Causal Relationship Unknown).* In marketing experience, rare cases of neutropenia, thrombocytopenia, and bone marrow depression have been reported. A few cases of hemolysis have been reported in patients with G6PO deficiency.

*Liver Function Tests.* Elevations of liver enzymes and/or serum bilirubin have occurred.

**Dosage and Administration:** *Hypertension:* In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, if possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) If the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed.

If the diuretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*)

The recommended initial dose in patients not on diuretics is 5 mg once a day. Dosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses. In some patients treated once daily, the antihypertensive effect may diminish toward the end of the dosing interval. In such patients, an increase in dosage or twice-daily administration should be considered. If blood pressure is not controlled with VASOTEC alone, a diuretic may be added.

Concomitant administration of VASOTEC with potassium supplements, potassium salt substitutes, or potassium-sparing diuretics may lead to increases of serum potassium (see PRECAUTIONS).

*Dosage Adjustment in Hypertensive Patients with Renal Impairment.* The usual dose of enalapril is recommended for patients with a creatinine clearance > 30 mL/min (serum creatinine of up to approximately 3 mg/dL). For patients with creatinine clearance ≤ 30 mL/min (serum creatinine ≥ 3 mg/dL), the first dose is 2.5 mg once daily. The dosage may be titrated upward until blood pressure is controlled or to a maximum of 40 mg daily.

*Heart Failure:* VASOTEC is indicated as adjunctive therapy with diuretics and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose of VASOTEC, the patient should be observed under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*) If possible, the dose of the diuretic should be reduced, which may diminish the likelihood of hypotension. The appearance of hypotension after the initial dose of VASOTEC does not preclude subsequent careful dose titration with the drug, following effective management of the hypotension. The usual therapeutic dosing range for the treatment of heart failure is 5 to 20 mg daily given in two divided doses. The maximum daily dose is 40 mg. Once-daily dosing has been effective in a controlled study, but nearly all patients in this study were given 40 mg, the maximum recommended daily dose, and there has been much more experience with twice-daily dosing. In addition, in a placebo-controlled study which demonstrated reduced mortality in patients with severe heart failure (NYHA Class IV), patients were treated with 2.5 to 40 mg per day of VASOTEC, almost always administered in two divided doses. (See CLINICAL PHARMACOLOGY, *Pharmacodynamics and Clinical Effects.*) Oosage may be adjusted depending upon clinical or hemodynamic response. (See WARNINGS.)

*Dosage Adjustment in Patients with Heart Failure and Renal Impairment or Hyponatremia:* In patients with heart failure who have hyponatremia (serum sodium < 130 mEq/L) or with serum creatinine >1.6 mg/dL, therapy should be initiated at 2.5 mg daily under close medical supervision. (See OOSAGE AND ADMINISTRATION, *Heart Failure,* WARNINGS, and PRECAUTIONS, *Drug Interactions.*) The dose may be increased to 2.5 mg b.i.d., then 5 mg b.i.d. and higher as needed, usually at intervals of four days or more, if at the time of dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

*For more detailed information, consult your MSD Representative or see Prescribing Information, Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, PA 19486.* J9VS61R2(819)

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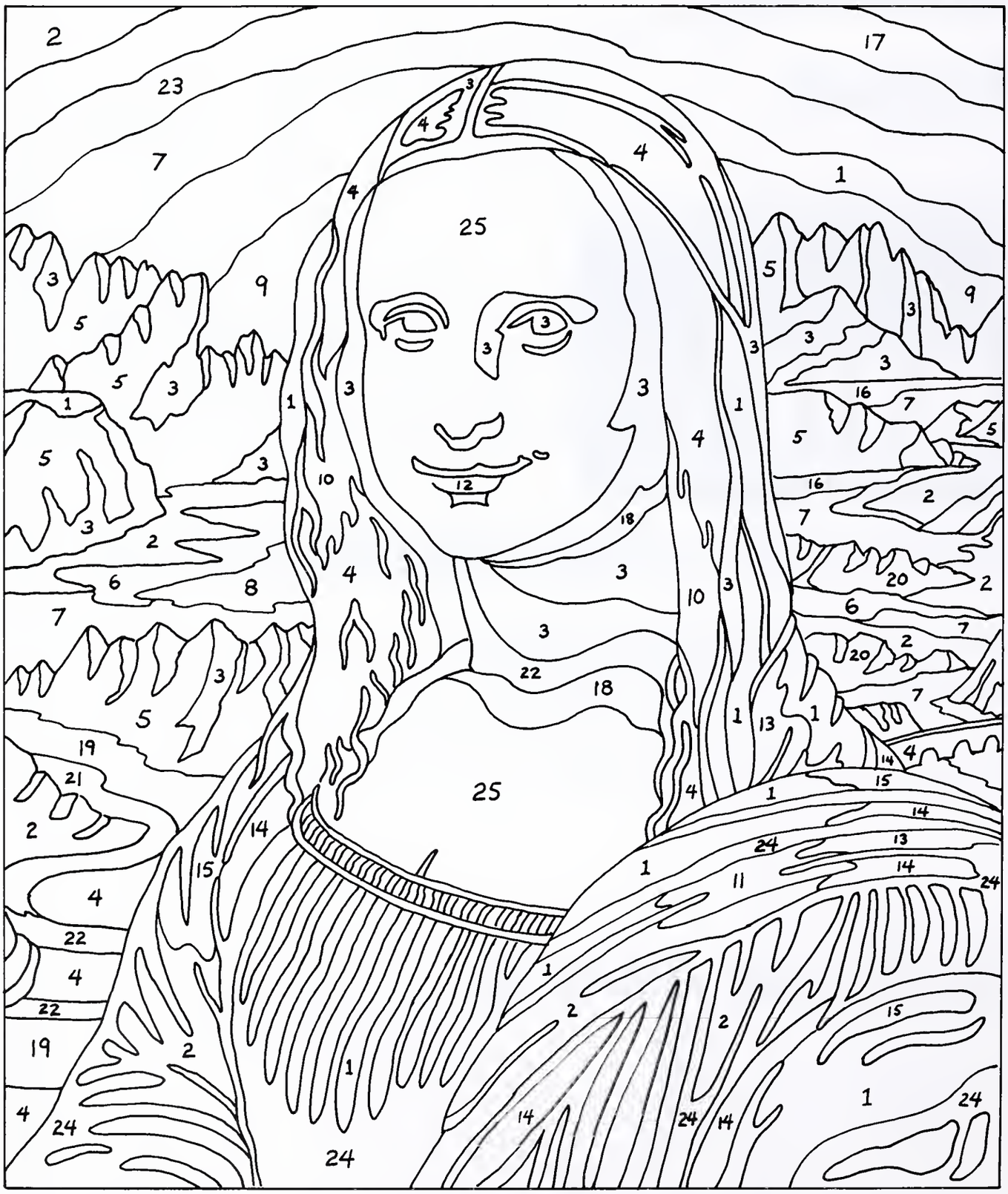
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# HMSA

We were intrigued by the content of HMSA's *Executive UPDATE,* Winter 1990 issue". . . published as a service to employers and community leaders. . ."

> *"In this decade alone . . . As a percentage of national income, health spending rose from 9 to 11.5 % with consumers footing nearly 42% more of the bill."*

The "consumers" of medical care are our patients; are they the ones who are paying 42% of the bill out-of-pocket? We doubt it. The consumers HMSA is concerned about are the employers — the ones who pay a large part of the medical insurance premiums for their employees. However, the consumers are actually the members of the general public who have to pay more for the goods the employers and their employees produce for the market.

We doubt, if each person had to pay his or her own way for medical care, that the percentage of GNP for healthcare would be the 12% that it is!

Insurance per se generates higher costs.

> *"These skyrocketing costs are largely due to the unrestrained use of high-tech medicine, and the American public's demand for the best available care, regardless of the price" [and we add: "Because my insurance will pay for it"/Ed].*

Right on, HMSA! But, you forgot to add to your sentence what we did!

> *"Hospitals and physicians are driven to such new technology . . . by competitive needs, to maintain their image as state-of-the-art providers and to generate income."*

We agree with the statement of fact, but we disagree with the stated causes. We are driven primarily by the demands of the public — our patients. Admittedly, we are also driven by the promise of being able to provide better care, to promote a return to good health, to preserve life. Is there anything reprehensible about that? Is there anything reprehensible about being paid amounts in keeping with the responsibility for the lives that are in our hands and the risks we take in cutting or prescribing drugs in a litigious society?

> *"At the heart of the matter, say industry analysts, is the popular view of modern medicine as a cure-all. The medical profession has encouraged this view itself. . ."*

We demur. We think it is the mass media that have fostered this view; physicians invariably inform patients that a procedure is never guaranteed to cure and that the outcome is always in doubt.

> *"The medical profession . . . [allows] people to think of what is natural — the aging process — as something to be fought off, rather than to be endured."*

We admit that that may be too true. It is derived from the misconception of the Hippocratic Oath: *That the physician must preserve life at all costs.* Nowhere in the Oath is that stipulated. It does state: "If any shall ask of me a drug to produce death, I will not give it." The modern practice of medicine, cognizant of the power in life-sustaining technology, now encourages physicians to heed the "quality" of life, rather than life itself. We can also say that the people nowadays are much more attuned to our professional attitude towards death as something that is inevitable in the ultimate but that can be met with amelioration of pain and suffering, and met with dignity.

What is troubling is our society's penchant for putting people into ambulances, applying CPR on the way to the ICU, ie onto a "conveyor belt" that has a sign on it that says: "Take me off, doctor, at your own risk!"

There is much more food for thought in HMSA's article to "its member companies and community leaders" that our readers should peruse for themselves. Suffice it to say here that the message we get from HMSA is that to control the costs of healthcare is much more important, even unto rationing, than to provide the people with the quality of medical care that physicians and hospitals can now give.

So what if the Nation's healthcare bill is 12% of GNP? What's wrong with it going up to 25%, if it provides the quality of medical care the people all need? They need it more than they do the >$500 million Stealth bomber!

J.I. Frederick Reppun MD
Editor

# Highlights of the HMA Council Meeting of 2 February 1990

In an accompanying piece, Councilor Denis Fu from Maui gives us his mildly ribbing and philosophical version of the meeting that was rather sparsely attended. If there are differences in our respective reporting, the reader might be a bit tolerant, since the truth is always colored by the tint of the beholder's spectacles.

We corroborate Denis' comments about the work of the **HMA Legislative Committee**, in that it has truly been overwhelmed by the number of bills that relate to medical and health matters. Our ears heard the number 5,500 as the total bills submitted, and 500 as those of import to HMA.

Becky Kendro handed out the long list of medico-related bills and then called to the Council's attention certain salient matters:

"There are many bills that would allow chiropractors to practice in-hospital; that would allow psychologists to dispense and prescribe psychotropic drugs; that would allow nurses to prescribe. There are 25 bills on testing for AIDS and many bills pertaining to drug abuse. Rep Dennis Arakaki has a bill that would encourage early prenatal care. Many bills have been submitted on amending the Living Will law and on Permanent Vegetative State (PVS). The HMA's position on the former is that food, fluids and oxygen may also be withheld at the signer's request." Becky reported that not much could be expected on tort reform, except perhaps on the "periodic payments" issue.

Bernie Scherman, Commissioner and co-chair of the **Workers' Comp Committee**, had been given the task of reviewing the proposal by the Hawaii Insurance Council to establish a fee schedule for No-fault Auto Insurance similar to the WC's fee schedule. Bernie reported that his committee recommended against HMA support primarily because the injuries and their treatment are very disparate. Instead, the committee suggested that the Legislature be asked to authorize a study of the issue in depth by the Legislative Auditor, including car repair costs and attorney's fees. The HMA Council approved the committee's recommendation. A special *ad hoc* committee on no-fault will be appointed and chaired by Gregory Gifford MD.

John Kim exhorted the Council attendees each to participate at the Legislature as well as to contact the legislators that each one knows personally, to advise and educate them about the concerns of practicing physicians in regards to the best interests of their patients. He also made a strong pitch for non-HMA-members to join and put their shoulders to the wheel of organized medicine. Denis Fu has emphasized that too.

J.I. Frederick Reppun MD
Reluctant reporter

## In Memoriam
# William M. Walsh MD

Bill was a long-time member of organized medicine in Hawaii. The span of his life of service to his fellow man encompassed nearly 60 years, as a general practitioner who did surgery, obstetrics, pediatrics, counseling and the care of patients from cradle to grave. He touched many and made many whole. What more can be said of a human being who enters this mortal world, carrying the genes of his parents and grandparents ad infinitum from times past, and passing them on to his progeny in times to come?

Bill started in Kohala as a Plantation Physician. He served as a surgeon in the navy during World War II and he practiced family medicine in Honolulu for 40 years. During his latter years he suffered considerably from fragile bones and much pain but persisted in going to his office to care for his loyal patients for as long as he could.

He joined the fledgling American Academy of General Practice in 1948. It was born the year before when a group from the General Practice Section of the AMA decided they needed to start an organization separate from the AMA.

Alvin Majoska, independently and about the same time, in 1948, gathered together some 80 generalists and formed the Hawaii Territorial Academy of General Practice, separate from the AAGP. Bill Walsh and 9 others petitioned the national AAGP to grant a charter to them in forming a Hawaii Chapter; this was done on 14 September 1950 with Walsh as president. In 1951, another charter was granted that took in the original group and also the HTAGP. Because Walsh had been elected president of the Honolulu County Medical Society, he had to resign as the first president of HAGP, but remained a member and a staunch supporter ever since. (The early history of the HAGP was written up in the *Journal* issue of November 1986, for anyone who is interested to read it.)

Bill Walsh died on 5 February 1990 at the age of 80.

The HMA and the *Journal* extend condolences to Bill's widow Mildred and the family on their bereavement.

J.I. Frederick Reppun MD

# Highlights of the Special HMA Council Meeting of 9 March 1990

The regular meeting of the HMA Council in March was canceled for lack of an agenda. However, a special meeting was called by President John Kim, on very short notice, because of an urgent need to consider House Bill No 3435, HD 2 relating to *Nurses Prescribing Drugs*.

John Kim called the meeting to order on Friday, March 9. Council members present included: Drs J.H.C. Kim, J. McDonnell, M. Shirasu, J. Chang, A. Kunimoto, R. Stodd, S. Wallach, D. Heeney, D. Brady, H.K.W. Chinn, M.L. Hefley, W. Young, H.H. Chun, P. DeMare, E. Morgan, J. Spangler, E. Bade, R. Goodale, D. Fu, H. Percy, E. Gramlich, G. Goto, and J. Lumeng. Others present included: V. Woo (legal counsel), Dr. F. Reppun (Editor, *Hawaii Medical Journal*) and HMA staff members J. Won, B. Kendro, J. Asato, P. Kawamoto, J. Estioko, C. Sugita, and M. Lindsey (recording secretary). Guests present included: Ms Francine Boland, Legal Counsel and Government Affairs Director, Kaiser Permanente and Dr John C. Lewin, Director of Health, State Department of Health.

John Kim first gave an account of how this bill came to HMA's attention.

It was introduced by Rep Jim Shon as chairman of the House Health Committee which heard and passed the bill on February 2. Becky Kendro was notified two hours prior to the hearing on the bill on February 26 in Rep Mazie Hirono's Consumer Protection Committee, at which no physicians were present. On the 28th, Hirono's committee passed the bill to the floor of the House.

The HMA met with the nurses and then on March 2 with John Lewin MD, the Director of Health (Lewin came to the Council meeting during the course of John's account and stated that the bill had not been initiated by the DoH and that he was opposed to its passage).

John Kim called a meeting of representatives from the specialty societies on March 6. After discussion, the vote to support was 13 to 10 [we heard no explanation why the vote was so evenly divided pro and con/Ed]. HMA's Executive Committee then voted 100% to oppose the bill.

On March 7, HMA met with Sen Andrew Levin, chairman of the Senate Health Committee, and the nurses. John reported that there was a general "leaning" towards the doctors' position. "The HMA mostly listened at that meeting," John said. That very same day the bill passed the House by a vote of 46 to 5 just two days before this Council meeting, and was referred to the Senate!

A considerable discussion followed.

It was revealed that Patrick DeLeon of US Senator Inouye's office has long been a backer of such legislation. Secondly, the federal OBRA law goes into effect soon; it stipulates Medicaid/Medicare reimbursement mechanisms for the treating of certain classes of people by certified nurse practitioners. Becky reported that 35 states already allow Advanced Registered Nurse Practitioners (ARNP) to practice on their own in various ways and under the regulations of the law. She revealed that there is a wide range of training and examination for ARNPs among the states...that the UH School of Nursing plans to start a course this Fall for registered nurses.

Becky went on to explain that the bill HB 3435 HD 2 next goes before the Senate Health Committee, which must give it a public hearing before March 23. It then goes to the Senate Consumer Protection Committee. On April 6, the bill must be "decked" for 48 hours and then it goes before the full Senate by the 9th. The Senate must either pass or kill the bill on that date (the HMA's concern is that with such an overwhelming vote in the House, it *is* likely to pass in the Senate as well!). If there are major changes in it, it goes to the Conference Committee, which includes three to five members from each chamber. If there is agreement in Conference Committee between House and Senate, the bill goes back to each house for passage before the Legislature adjourns on April 30 and then to the Governor.

The Council had three alternatives presented to it by President Kim:

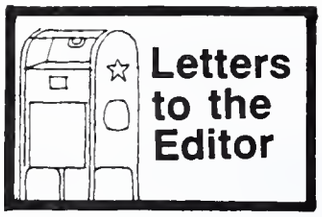
(1) To vote "no" in opposition to the bill;
(2) to vote for it in the form amended in consultation with the nurses (who proposed physician collaboration); or
(3) to vote for Jack Lewin's proposal to work out an approach in collaboration with interested parties over the course of a year or two and then present it to the Legislature.

Unanimously, the Council members present voted to oppose HB 3435 HD 2, ie choosing (1) above.

Becky had pointed out that if the bill did not pass, the legislators would probably go for a resolution instead, which would then allow for a lot more discussion of the issue. Steve Wallach moved that the HMA participate vigorously in the discussion if it came to that; all agreed.

What was most disturbing about the whole thing was the speed with which a controversial bill such as HB 3435 is propelled railroaded through without much opportunity for input from those most affected. Speeding passage of a law that would allow non-medically trained persons to prescribe and administer drugs is not only dangerous to the patient but also to the giver because of liability.

J.I. Frederick Reppun MD
Reporter still pro tem




# HIV and healthcare workers

I did not see any reference to Lorraine J. Day MD's speech at the State Capitol on 10 Jan 90 in the Advertiser or the Star-Bulletin the next days. This is regrettable.

Dr Day is an internationally known and respected surgeon who has been Chief of Orthopedic Surgery at San Francisco General Hospital for five years. Her personal investigations have shown many frightening aspects about the Human Immunodeficiency Virus (HIV) that causes AIDS.

For example, the virus is not fragile, surviving 20 minute exposure to alcohol, and can remain alive and infective on a dry surface at room temperature for seven days. The test to determine whether or not a person has the disease may remain negative for up to three years before turning positive, during which time that person may be infectious. A single HIV virus particle may be infective; a single needle stick may be infective. The risk of becoming infected through unprotected anal intercourse is 1 in 250, whereas that through a needle stick with HIV positive blood is 1 in 200. The virus has been transmitted through intact skin to a child, to a mother caring for an AIDS-afflicted child, and through saliva, Day said.

In the operating room, many of the rubber gloves which are used to protect the patient from infection have large enough apertures in the seemingly impervious material to allow viral particles to pass through; surgical gloves are frequently perforated (up to 40%) during surgery and surgical masks will not prevent the passage of viral particles, according to Dr Day. HIV infection is 100% fatal.

There are at least 266 cases of AIDS in healthcare workers who have no risk factors for exposure to HIV other than their occupation. I wonder how many there are who would be HIV positive, possibly infectious, but have never been tested? Dr Day knows of 13 physicians, some of them surgeons, who have tested positive but do not yet have symptoms and are still practicing medicine and surgery.

Dr Day spoke at the auditorium in the State Capitol at noon, presenting the above at length. She was well-received by the majority in the audience (SRO), although a small group representing The Life Foundation, an AIDS-support organization, was very vocal in decrying her message. Only two legislators attended; all had been invited. It was announced at the meeting that Senator Andrew Levin, Chairman of the Health Committee, had withdrawn his sponsorship.

Dan Rather interviewed Dr Day before she left for Honolulu and this interview was presented on his national CBS TV program on 10 January. Leslie Wilcox of Channel 9 interviewed her and projected that interview on TV that same evening. Despite adequate notice, the daily newspaper did not interview her or report on her lecture.

At the present time in our community, HIV testing may be done only after extensive counseling and with the informed consent of the patient to be tested, a situation which exists in the case of no other laboratory test. We have no way of knowing whether or not the person taking care of us has AIDS or is HIV positive. Under the present rules, that surgeon may not even know he or she has the disease since he or she has never been tested. Is the group involved with AIDS so large and powerful that it can prevent sensible precautions from being taken? Apparently so.

As in any testing for drug use, HIV testing should be mandatory for people in a high-risk field, not only in order that they may be treated for the disease and other related conditions, but to protect those around them from becoming infected. In addition, we should be extensively testing much more of our population to learn the true dimensions of this modern plague.

Frank E. Ceccarelli MD

The Editor replies:

*Although we hope that those more in the know will reply to "Pete," a retired urology surgeon, our own response is that, due to the nature of this particular viral epidemic, society is loathe to pin the yellow quarantine flag onto a person who may be only seemingly "positive" for HIV, or positive but not infectious for an indefinite period of time. Modern society also tends to protect that person — patient or healthcare-giver — from adverse notoriety, unfair discrimination, etc. People are all too prone to castigate someone, even in the absence of a valid, scientific reason. Thus, we have a conflict between traditional and established public health principles, and humanism.*

*Drs Day and Ceccarelli, understandably, speak from the point of view of the surgeon and the many paramedical assistants that surround the patient that* might have *or do have AIDS or are positive for the HIV and may or may not be infectious at that particular moment. The corollary is equally understandable: the patient under the scalpel may be concerned whether his care-givers might give him more than just care!*

*The worst of it is that the HIV is so deadly.*

*J.I. Frederick Reppun MD*



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*References*

1. USP DI Update, September/October 1988, p 120.
2. Br J Clin Pharmacol 1985;20:710-713.
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*Drug Interactions*—No interactions have been observed with theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450 enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In pabents given very high doses (3,900 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

*Carcinogenesis, Mutagenesis, Impairment of Fertility*—A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a two-generation, perinatal and postnatal fertility study in rats, doses of nizabidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

*Pregnancy—Teratogenic Effects—Pregnancy Category C*—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproducbon capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

*Nursing Mothers*—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discobnue nursing or the drug, taking into account the importance of the drug to the mother.

*Pediatric Use*—Safety and effectiveness in children have not been established.

*Use in Elderly Patients*—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

**Adverse Reactions:** Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticana (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events was due to the drug.

*Hepatic*—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevabon (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to three times the upper limit of normal, however, did not significantly differ from that in placebo patients. Hepatitis and jaundice have been reported. All abnormalities were reversible after discontinuation of Axid.

*Cardiovascular*—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

*CNS*—Rare cases of reversible mental confusion have been reported.

*Endocrine*—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

*Hematologic*—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another $H_2$-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

*Integumental*—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatibs were also reported.

*Hypersensitivity*—As with other $H_2$-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Because cross-sensitivity among this class has been observed, $H_2$-receptor antagonists should not be administered to those with a history of hypersensitivity to these agents. Rare episodes of hypersensibvity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

*Other*—Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine have been reported.

**Overdosage:** Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance by approximately 84%.

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# The relegation of patients to long-term care: The Kuakini Experience

Hayato Yamanaka, PhD*
Cullen T. Hayashida, PhD**

*Kuakini Health System Inc. today represents one of Hawaii's largest healthcare complexes. Among the major medical centers, Kuakini engenders images of being a Japanese-oriented health facility including a comprehensive array of institutional and non-institutional geriatric care services. This image still exists, in part because of its historical origins as founded by the Japanese Benevolent Society, and because of its tradition of the care of the elderly Japanese stemming back to the first half of this century.*

*The purpose of this report is to identify the factors that resulted in the emergence of care services to the elderly by a hospital in the 1930s. This study will examine both extra- and intra-organizational factors that resulted in an emphasis on geriatric care services by this ethnic community hospital in Honolulu before World War II. External factors discussed will include discussions of demographic and sociological characteristics of the Japanese immigrants on Oahu in the late 1920s. In addition, internal characteristics of the hospital such as its patient case-mix, financial status and the relationship of Hawaii's Japanese to the dominant white ethnic group at that time will be considered.*

## History of the Japanese Hospital of Hawaii

In 1900, the Great Chinatown Fire destroyed much of central Honolulu and the neighboring homes of the Japanese community. As a consequence, the Japanese Benevolent Society established a small hospital to care for Japanese victims. This was the beginnings of the Japanese Hospital. After two relocations, the Japanese Hospital finally found sufficient land for its future development and physical growth in 1917 at its present Kuakini Street site in Central Honolulu.

In the late 1920s[a,1] and early 1930s, long before comparable interest in care services for the elderly was being initiated in Japan and in much of the United States, the Japanese Hospital of Hawaii began to set into motion its plans for the establishment of its home for elderly men.

The planned "Japanese Home for the Aged" was unique for being an early example of a hospital initiative in long-term care[b,2,3,4]. The home was organized to provide care for homeless and indigent Japanese elderly immigrants. Residents of the home were to be referred to the hospital for medical care as required, often times at no charge.

Under the leadership of the Japanese Benevolent Society, the fund-raising arm of the hospital, funds were solicited from the Japanese community throughout the Territory of Hawaii; $51,000 (in 1930 dollars) was raised to build the facility. Plans for construction were also under the Benevolent Society's direction.

The new facility was completed in 6 months in May 1932. Later known as the Kuakini Home, this home for the elderly consisted of two barracks-style, wooden dormitory buildings. Each had a capacity to accommodate 44 elderly men on 9,784 square feet of floor space for sleeping quarters, a common dining room, a kitchen and a public bathroom. The facility was situated on 82,606 square feet of land in one corner of the hospital campus.

Following the Pearl Harbor attack by the Japanese Navy in 1941, the Japanese Hospital of Hawaii changed its name to Kuakini Hospital and Home after the street on which it was located.

One frequently used explanation for the early involvement of Kuakini in elder care was the value placed on respect and care for the elderly in traditional Japanese culture. Confucian concepts such as filial piety, the respect for family lineage and the extended family unit, were particularly well-imbued into the culture in rural

* Assistant Professor of Sociology at the National Institute of Multi-Media Education Chiba, Japan.
** Director of the Maluhia Project: Home Health for the Uninsured, at Maluhia (A Long-term Care Health Center), State Department of Health, Honolulu, Hawaii, and Affiliate Associate Professor of Sociology, University of Hawaii, Honolulu, Hawaii.

a. Although 1932 is usually considered the date of the establishment of the Japanese Home for the Aged, there is evidence that a barracks for at least 9 elderly benevolent patients was available as of December 5, 1928. Japanese Benevolent Society, *The Annual Report of the General Meeting,* March 28, 1929.

b. Brody & Persily's (1984) book, *Hospitals and the Aged: The New Old Market,* was written only recently, out of a conviction that hospitals should have a role in assuring the well-being of older Americans. It is interesting that this type of initiative by hospitals only began in the mid-1980s. Another text that introduced this issue in recent times was Hospital Research and Educational Trust's (1982) *The Hospital's Role in Caring for the Elderly.*

Japan, whence most of Hawaii's Japanese contract laborers came. Thus, there is probably merit to the argument that cultural values brought by the immigrants from Japan were at least partially responsible for the sensitivity to the needs of the indigent and retired plantation workers who were without family support.

A question that must be posited in order to assess the relative merit of the "cultural explanation," however, is to what extent hospital-based geriatric care services existed in Japan in the 1920s and 1930s? In that time and place, the care of the frail and vulnerable elderly was relegated to the number one son and his family, specifically his wife[4,5]. To refer the elder person to social service was tantamount to abandonment and the relinquishment of one's family obligations. What little social services for the elderly did exist were the product of minor, non-traditional, Christian and Buddhist group efforts. Because these groups were not considered to be in the mainstream, it is safe to say that during that period, there were very few families who considered this approach to elder care to be socially appropriate and acceptable. Thus, one can argue that Japanese cultural traditions, emphasizing care by the family, deterred the development of structured social and personal care services for the elderly.

Based on the above discussion, it is this paper's contention that such formal, elder care services as developed at Kuakini were, with a few exceptions, non-existent in Japan in the 1930s[c,6,7]. Thus, one cannot maintain that this traditional Japanese value of respect for the elderly alone was the only explanation for Kuakini's early involvement in geriatric care. Homeland Japanese cultural tradition mandated that the informal Japanese family system of responsibility would serve as well the aging Japanese population in Hawaii. Therefore, it was not the responsibility of the Japanese hospital. Why then did the Japanese in Hawaii alter their traditional cultural approach to elder care? Why did they engage in an alternative to the tried-and-true traditions in Japan?

What follows is an analysis of the genesis of Kuakini Medical Center's involvement in elder care in the 1930s. Both exogenous and endogenous factors will be assessed.

## Exogenous Factors

**Modern Medicine's Influence on Hospitals:** The period between 1850 and the early 1990s was one of transition, as the role of the hospital began to move away from its mission as a welfare institution and as a refuge for the homeless, poor and insane, to become citadels of modern science and workshops for the medical profession. As Starr noted, "few institutions have undergone as radical a metamorphosis as have hospitals in their modern history . . . in developing from places of dreaded impurity and exiled human wreckage. The reconstitution of the American hospital involved its redefinition as an institution of medical science rather than of social welfare, its reorganization on the lines of a business than a charity, and its reorientation to professionals and their patients rather than to patrons and the poor."

The charity mission of the Roman Catholic Carney Hospital of Boston is a case in point. When it opened in 1869, "the institution devoted one of its five floors to 'old people who may not be sick but come here for a home.' Embodying Christian charity, the hospital was an undifferentiated welfare institution. The staff surgeons described their work as involving largely 'cases of a more or less chronic nature.' "[8]

Likewise, Massachusetts General in the 1850s provided care for the poor in a convaleseent period averaging 4 to 7 weeks in length. This meant that many of the patients needed more the social care and support of non-medieal personnel. Many were not bedridden and, in fact, spent a good deal of time on the hospital grounds; many were even able to take advantage of the volunteer-sponsored carriage rides over the rough, 19th century country roads. This suggested that they could not have been very ill.

Whereas the early mission of hospitals was to provide havens and charity care for the poor, the homeless and the insane, that period of history was also marked by major discoveries and inventions in the health sciences. The work of Florence Nightingale, Louis Pasteur and Lord Joseph Lister, among others, was notable for the development of antiseptic techniques and infection control. Other developments in anesthesia, the use of the microscope and other precision instruments, the x-ray and Edison's invention of the incandescent light were all occurring from the late 19th century on. This was the period of the triumph of modern, scientific medicine, the establishment of schools of medicine, the increased emphasis on medicine's professional status and its desire to use hospitals as its working place in which to effeet eures.

The growth of surgery and the relief of acute illness forced a redefinition of the mission of many of the older charity hospitals. Active medical and surgical treatment supplanted religious and moralistic methods and became the overriding mission. One of the consequenees of the advent of modern medicine was that hospitals began actively to dissuade the admission of convalescent patients.

British hospitals, a few decades earlier, had universally separated the acutely ill from the chronically disabled patients, with the latter residing in less desirable accommodations, serviced by less well-trained personnel and less well-equipped.

The request for the development of convalescent homes in the Boston area was made as early as 1871 by Boston City Hospital's medical staff. The physicians were interested in clearing the wards of convalescent patients no longer in need of active medieal care. As a consequence, the first convalescent homes connected with Boston hospitals were situated in facilities out in the country[9,10]. The

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c. Japan government funds were available to support the elderly in need of long-term institutional services in hospitals or homes for the elderly in the early 1930s as a result of the *Kyugoho* Law or Social Relief and Protection Act of 1929. Eligibility requirements, however, were extremely stiff, such that only those over 70 years of age before 1932, and over 65 years of age after 1932, could receive financial support. This was at a time when life expectancy had not yet reached that level in Japan. Around 1935 and 1936, life expectancy for men was 46.92 years and for women 49.63 years. There was only one, known, hospital-based facility that also provided long-term care services: Yokufukai Hospital in Tokyo. This was a private, non-profit facility that opened in 1923, after the Great Tokyo Earthquake. In addition, there were also 66 homes for the aged in 1931, of which only one was government-sponsored. Most were operated by Christian churches or Buddhist temples (see Ichibagase and Yoshida 1982: Yoshida 1960).

expulsion of chronic, long-term and convalescent cases may also have been due to the transformation of the hospital into a bureaucratic organization with the purpose of becoming a financially sound business activity. Such trends in medical care in the U.S. were beginning to have an impact on Hawaii's system of hospital care.

Kuakini's medical staff and trustees were probably also concerned about the load of "benevolent" and charity patients. Both staff and administration were interested in the continued expansion of the hospital for the care of the curable patients[d,11]. It is noteworthy in this respect that the hospital was initially called the Japanese Charity Hospital from 1900 to 1918, but from 1918 to 1941 it was referred to as the Japanese Hospital.

**Immigrant Sex Ratio and Immigration Policy:** The history of the emigration of Japanese to Hawaii began in 1863 with the coming of the initial 144 workers. Since that time, three waves of immigrants arrived, beginning with the workers on contracts with the Hawaiian Kingdom, up through the period of unrestricted immigration. Total prohibition of Asian immigrants took place in 1924.

The primary hope of the Japanese immigrant was to use the sojourn in Hawaii for work on the sugarcane plantations and to save money. With that intent in mind, most of the early Japanese immigrants left their families back home in Japan in rural villages, and came to Hawaii as single men.

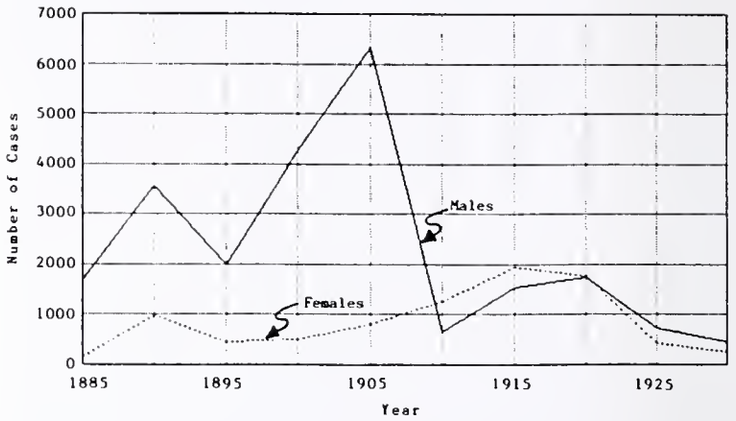
Figure 1 depicts the annual trend of the Japanese immigrant population in Hawaii by sex. The data provided by Figure 1 indicate that Japanese males outnumbered females during the early period of Japanee immigration. It was not until the 1910s that a more balanced demographic policy was achieved. In Figure 2, the sex ratio imbalance in 1930 was prominent only in the 45- to 65-year-old cohort. All other age groupings among the Japanese that year were relatively equal in numbers of men and women.

Despite their initial intent, the Japanese immigrants did not find it easy to save money and return home. Instead, many of them wanted to get married, have a family and settle in Hawaii. By the early 1910s, an increasing number of immigrant men began making arrangements for wives by means of "picture bride marriages." Since this was closely related to the customary arranged-marriage practice in Japan at that time, "picture bride marriages" became a common and popular means of getting wives in Hawaii. As a result, the second generation or Nisei began growing in number. With the presence of new wives from Japan and the birth of offspring, the disproportionate representation of Japanese men in Hawaii began to moderate.

By the 1920s, another demographic trend became evident when the Japanese immigrant population entered the early stages of aging. After the Asian Exclusion Act of 1924, no new young immigrants from Asia, including Japan, were permitted entry into Hawaii. The law consequently accelerated this trend in Hawaii's Japanese population.

FIGURE 1

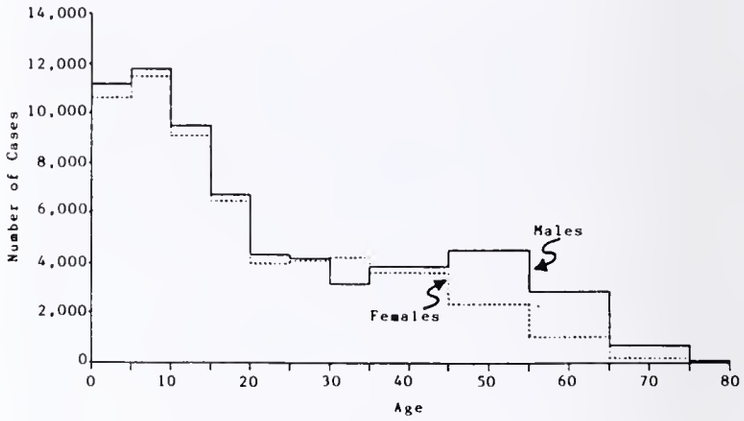
THE JAPANESE MIGRATION TO HAWAII - 1885 to 1930:
PASSPORTS ISSUED TO MEN AND WOMEN
BY THE JAPANESE GOVERNMENT




Source: Bureau of the Census, U.S. Department of Commerce. Fifteenth Census of the United States: 1930 Population Hawaii Washington D.C.: U.S. Gov't Printing Office. Adapted from Table 20 - Marital Condition of the Total Population of the Territory, By Age. (p.20)

FIGURE 2

POPULATION DISTRIBUTION OF THE JAPANESE IN HAWAII
BY SEX AND AGE FOR 1930




Source: Bureau of the Census, U.S. Department of Commerce, Fifteenth Census of the U.S.: 1930 Population Hawaii Washington, D.C.: U.S. Government Printing Office, 1931. Adapted from Table 4: Age of the Territory - 1920 and 1930. (p.10)

As a factor, however, the relative aging of the Japanese population in only 5 years from 1925 to 1930 cannot be counted as a major reason for the establishment of the Japanese Home for the Aged. In comparison to other immigrant groups at that time, the Japanese were still considered to be a relatively young lot.

The reason for the establishment of the Japanese Home for the Aged is better understood in terms of the lack of the traditional basis for elder care among the Hawaii Japanese. Although the Japanese population's sex ratio was beginning to even out, it was still weighted in favor of men in the 1930s. Thus, there was an increasing number of Japanese elderly men who were unmarried[e]. According to the 1930 U.S. Census, there were 1,501 Japanese men over 65 years of age in Hawaii, of which 687 (45.8%) were single. As noted earlier, the traditional custom was to put the burden of elder care on the eldest

d. U.S. Mainland medical practice had a continuing influence on the Japanese Hospital. It for example, often sent the physicians of the Japanese Medical Society to leading Mainland facilities, such as the internationally renowned Mayo Clinic, to observe and introduce new procedures and concepts in Hawaii (see *The Meeting Minutes of the Japanese Hospital* 1925).

# MRI CASE OF THE MONTH

## TETHERED CORD WITH LIPOMA

**Clinical Information:** A 7-year-old child with soft tissue mass overlying the dorsal aspect of the lower lumbar spine and sacrum.

**Image #1**

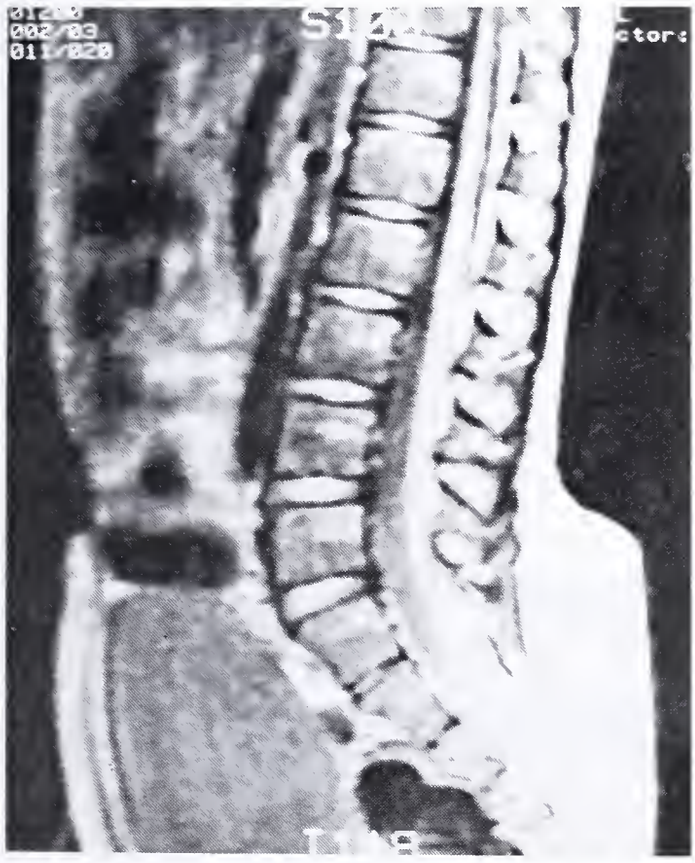
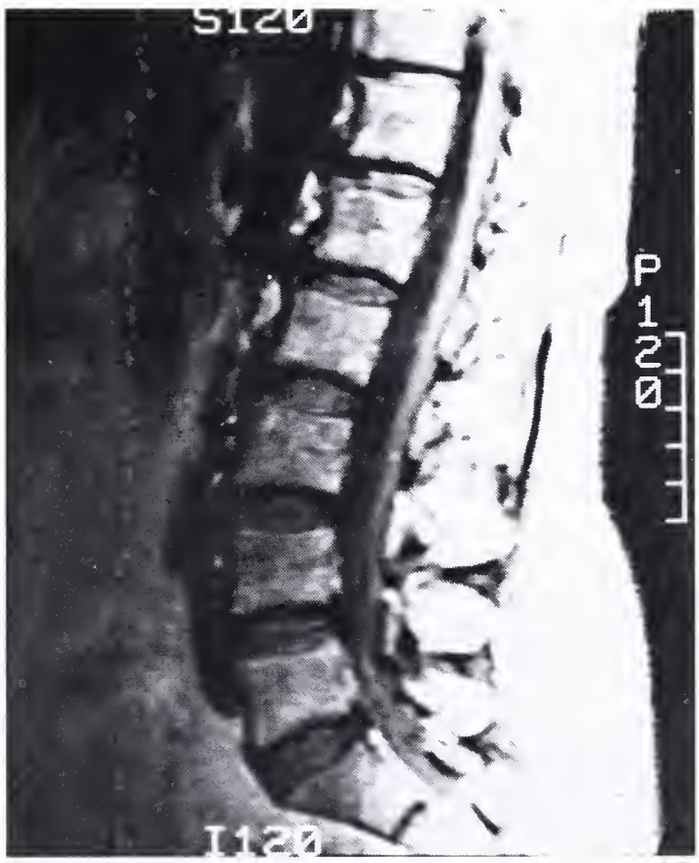


**Image # 2**




*These images were produced by MRI Center of the Pacific using their 1.5 Tesla GE Scanner.*

**Radiologic Diagnosis:** Image #1 shows a tethered cord extending down to the lower border of L5 with an associated small lipoma extending through a spina bifida defect into a larger subcutaneous lipoma. Image #2 is a normal patient for comparison, with the conus at T12 and the cauda equina extending caudally.


Magnetic Resonance Imaging
Center of the Pacific

42A Ahui St.
Honolulu, HI 96813
Phone 531-6841
Hours: 6:00 am-9:00 pm Monday-Friday
7:00 am-3:30 pm Saturday

A partnership of Kuakini Medical Development Corp.; Permanente Services of Hawaii, Inc.; Queen's Health Technologies, Inc.; Straub Imaging Services, Inc.; St. Francis Healthcare Technologies, Inc.

son's wife. For the elderly, single Japanese man, however, this traditional basis for elder care was obviously not available. It is within this demographic context that the Japanese Home for the Aged was established.

**Social Breakdown of Consanguineous Relations:** Another known characteristic of Japanese social structure was its affinity for consanguineous relations[6,12]. Social cohesion in the traditional Japanese family has been bound by an emphasis on maintaining the patrilineal family line. This line is basically vertical and lineal over time. In this context, adoption has a meaning for childless couples as a way of continuing the paternal family line by taking in a relative's (ie consanguineous) child as one's own. Similarly, couples who have only daughters, marry the eldest daughter to a man who is adopted as a "son" as a result of his accepting the family name as his own. This perpetuates the paternal line. It is also within this type of cultural tradition that one finds the primogeniture rule of the eldest son assuming the succession rights and responsibilities of his father's estate. The eldest sons of families in Japan, therefore, almost never became emigrants since they were responsible for the continuation and maintenance of the family line and estate. The elderly unmarried man in Japan consequently tended to enter his eldest brother's household, which was also his parents' former home (ie stem family).

Among the Japanese immigrants, consanguineous relationships were reflected in the establishment of prefectural (kenjinkai) and county (gunjinkai) associations. Those from the same rural villages in Japan were assured to be at least distantly related by blood.

This basis for social organization in Hawaii's Japanese community was stronger in the plantation camps than in urban communities. These community ties were often the foundation for social support. In the case of the elderly immigrant, however, the eldest brother most likely remained in the rural village in Japan where he managed the family's land and continued the family line. If the elderly immigrant wanted to be cared for by his eldest brother's family, he would have to return back to Japan.

For many, however, the ties to their natal family in Japan had weakened considerably. The long separation usually precluded the possibility of returning to Japan and often the money was lacking. In other words, the social breakdown with their blood relations, subsequent to migrating to Hawaii, made the traditional means of elder care for the immigrant elderly Japanese inaccessible and impracticable.

The reason that "benevolent" or welfare-type patients were admitted into the Japanese Hospital clearly was because of the dilemma (described above) faced by the elderly immigrant in seeking long-term care services. The Japanese-language newspapers at that time published articles describing the situation and the plight of these wards of the Benevolent Society. According to these news articles, there were 3 main reasons for hospitalization: (1) physical illness of the homeless elderly; (2) unmarried elderly without family or relatives, who were unable to work and in need of care and supervision; and (3) physical illness of family members following the death or serious illness of the head of the household resulting in the disruption of family life. It is significant that the Japanese-language newspapers of the time had recognized that the Japanese immigrant community's lack of a sufficient network of consanguineous relationships resulted in its inability to utilize traditional methods of providing informal long-term cares services through the family[13,14].

e. It is noteworthy that the single Japanese men did not consider interracial marriage to be a viable option because the perpetuation of the family line was not preserved. The incidence of intermarriage by the Japanese in the 1920s and 1930s was negligible.

**Endogenous Factors**

**Characteristics of "Benevolent Care" Patients:** Since the opening of the Japanese Hospital of Hawaii in 1900, "benevolent" or free-care patients were always accepted by the hospital. Because many of them also happened to be elderly, one could say that services to the elderly may have preceded the establishment of the Japanese Home for the Aged in 1932.

Who were these benevolent patients? According to Section 2 of the Japanese Benevolent Society of Hawaii's By-Laws (adopted as revised in September 11, 1917)[1], benevolent patients were defined as "those who are not able to support themselves due to illness, disaster or unpredictable misfortune." By being classified a benevolent patient, he or she qualified to receive free care. To be considered a benevolent patient, however, it was necessary for a person to submit a formal application by a sponsor, such as a doctor, on behalf of the person, with a description of that person's financial status, living conditions and medical diagnosis, to the Japanese Benevolent Society. Upon review of the applicants, by petition the Society's Board, recommendations were sent to the Superintendent of the Hospital for his final decision.

When we reviewed these cases, we found that most of the benevolent patients who were finally accepted through this stringent screening process were primarily indigent elderly with no family or relatives to provide long-term, continuing care. The Japanese-language newspapers in Honolulu, reported on September 8, 1927, e.g. that in the preceding 10 years since 1918, there had been 300 benevolent patients served. The article provided statistics with reference to the age distribution of 66 of the 130 benevolent patients. In Table 1, the average age of the benevolent patients was approximately 54 years. Although this may be considered to be relatively "young" as of this writing, the average life expectancy for the Japanese in 1920 was 51.2 years[15].

As noted earlier, the benevolent patients were those who were unable to receive medical care because of financial difficulties. Thus, the purpose of the Japanese Benevolent Society's program to provide assistance to the ailing benevolent patients was to provide free, relatively short-term medical care and eventually to send them back into the community. Given the limited number of beds available for both the benevolent and the private-pay patients, there was great concern by the hospital administrator over the length of time the beds were being occupied by the financially-draining benevolent cases. The figures portray the patient-case mix of that period.

TABLE 1

AGE DISTRIBUTION OF 66 BENEVOLENT PATIENTS*
1918 TO 1927

| Age Range | Frequency | Percent |
|---|---|---|
| >80 | 1 | 1.5% |
| 70-79 | 0 | 0.0% |
| 60-69 | 18 | 37.3% |
| 50-59 | 24 | 30.4% |
| 40-49 | 12 | 18.2% |
| >39 | 11 | 16.6% |
| | 66 | 100.0% |

Source: Nippu Jiji (Japanese Language Newspaper) September 9, 1927. Honolulu, Hawaii

In Figure 3, two graphs are portrayed simultaneously for a comparative analysis of private-pay patients and benevolent or free-care patients according to their average length of stay and the average daily census, both on an annual basis. Clearly, one notes from the data provided that despite their smaller number, the benevolent patients' length of stay was considerably longer than that of the private-pay cases. Between 1919, when data was first available, and 1931, there was clearly a gradual increase in the number of benevolent patients, with the consequent increase in the overall length of stay. This trend was not reversed until the Japanese Home for the Aged was established in 1932.

Figure 4 presents the lower portion of the data from Figure 3 on annualized average daily census in proportional terms. Upon reviewing the trend, one notes that benevolent patients in 1919 accounted for about 10% of the total census. Since then the overall trend has been for the gradual increase in its relative ratio up to 23.5% by 1931, when it reached its peak. At that point, one of every 4.26 patients was a benevolent case. It was not until after 1932, after the Japanese Home for the Aged was built, that we find a reverse trend that becomes relatively insignificant by 1940.

Another noteworthy trend that reduced the need for charity assistance from the hospital was the Territory of Hawaii's Welfare Department subsidization program for the indigent in 1937. This resulted in some residents deciding to leave the Home for the Aged in order to live in the community on their own[16].

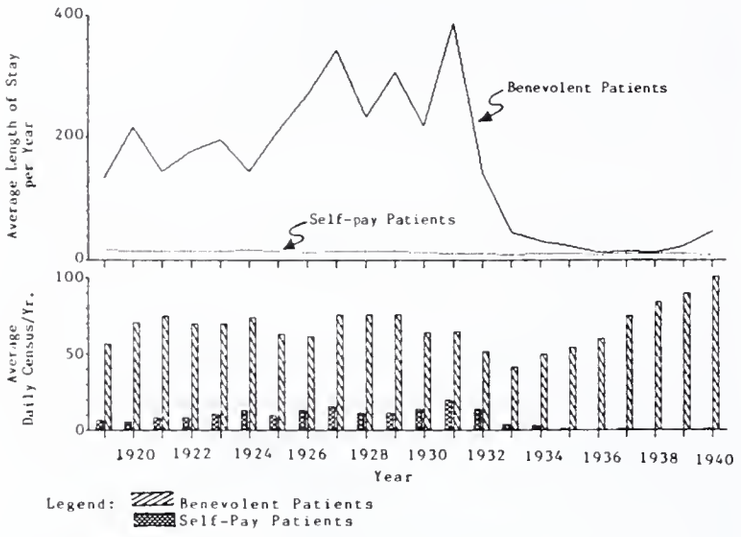
The economic significance of this growing benevolent patient population load is apparent in the top portion of Figure 3, which depicts the increase in the average length of stay each year. From 1919 to 1924, the average length of stay of the benevolent cases was about 160 days. This was 10 times longer than that of the private-pay patients of the same time period: About 16 days. Whereas the latter demonstrated a continuous decline in their length of

►



FIGURE 3

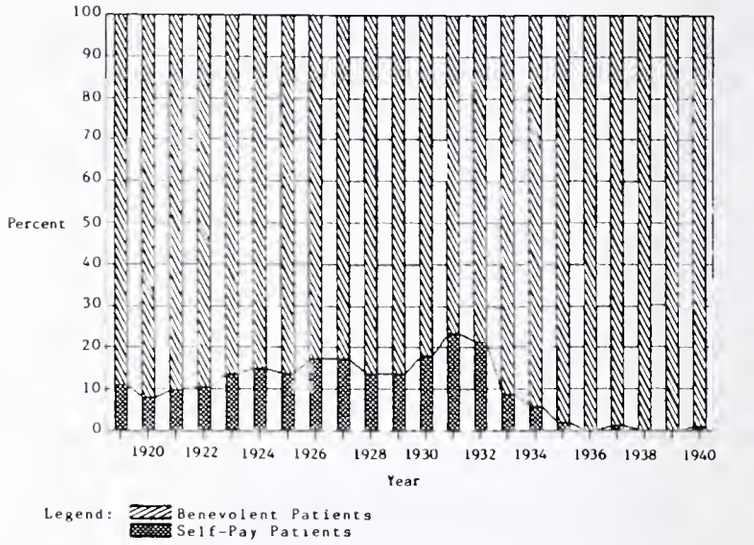
CHANGES IN AVERAGE ANNUAL LENGTH OF STAY
AND AVERAGE ANNUAL DAILY CENSUS FROM 1919 TO 1940
JAPANESE HOSPITAL OF HAWAII




Source: Japanese Benevolent Society, The Annual Report of the Grand Meeting - 1919 to 1940 (Kuakini Health System Archives Material - Unpublished documents). Honolulu, Hawaii.

FIGURE 4

AVERAGE DAILY PATIENT CENSUS BY YEAR --
CHANGES IN THE RATIO OF BENEVOLENT PATIENTS TO THE
SELF-PAYING PATIENTS FROM 1919 TO 1940




Source: Japanese Benevolent Society, The Annual Report of the Grand Meeting - 1919 to 1940 (Kuakini Health System Archives Material - Unpublished documents). Honolulu, Hawaii.

stay, the reverse was true of the charity cases. By 1931, the latter were averaging 389.6 inpatient days per patient or 30 times that of the private-pay cases! Thus, in addition to being older and impoverished, the benevolent patients were having a significant adverse impact on the hospital as a result of their increasingly longer length of stay. The hospital, as a consequence, was forced to find a solution to an impending financial crisis.

**Need for Economic Efficiency:** In assessing the alternative care options available to the hospital for the benevolent patients, there were at least 4 that were considered: (1) Maintain the status quo; (2) arrange for their return to Japan; (3) contract with a community-based, elderly home; and (4) establish a hospital-based home for the elderly.

Needless to say, the long-term consequences of the first option were too ominous to be taken seriously given the trends as shown in in Figures 3 and 4. In a March 1928 article on the call for a solution, the Japanese newspaper *Nippu Jiji* noted that the cost of maintaining benevolent patients in the hospital amounted to $2.80 per day per patient. The hospital had spent a total of $18,000 in 1927 alone[f,18,19]. This option was considered to be the most expensive of the four.

Option 2, which called for the return of the elderly back to Japan was also considered. In those times, the Japanese Benevolent Society was actively involved in the financial support of the aging immigrants who needed help to pay for their return voyage to Japan. However, these people required a home to return to. For those who could be helped, the Benevolent Society had already provided assistance; most had already left Hawaii. Benevolent patients at the Japanese Hospital were generally impoverished, single immigrants who did not have families or relatives in Hawaii and had lost their option to return to Japan for one reason another. As a consequence, Option 2 was no longer a viable one for the Hospital.

Option 3 called for the discharging of the patient to an existing, community-based, elder-care facility. In considering this option, the hospital executives approached an elderly home operated by the City & County of Honolulu and requested that it admit these long-term care patients.[16] However, due to its limited budget and long waiting list, the County facility agreed to admit the Japanese Hospital's cases only if the hospital was willing to underwrite the $1.50 per patient day cost for the duration of their extended stay. Although this cost was about half that of the first alternative, it was not considered by the Benevolent Society to be sufficiently cost-effective.

Finally, Option 4, which called for the construction and management of its own Home for the Aged was considered. Although there is no direct evidence that an analysis of its projected cost was conducted, it is clear that cost was an important consideration in the hospital's decision-making process.

Based on records of its first year of operation, Fujii stated that the newly established Japanese Home for the Aged was averaging a cost of 43.8 cents per resident-day.[17] This was one-sixth the cost of Option 1 and one-third of Option 3. In retrospect, then, it is probable that the establishment of the Japanese Home was because of its being the most cost-efficient way of caring for the long-stay benevolent patients.

**Inter-ethnic Organizational Competition and Interdependence:** The cost referred to above per resident-day does not take into account the cost of construction (over $51,000 in 1932). To obtain the required funds, the

f. The stock market crash of 1929 and the subsequent Great Depression of the early 1930s may have also been another critical factor in the need to increase the operational and financial efficiency of the Hospital. At that critical time Superintendent Isoto Dewa was said to have nearly resigned, due to the dire financial status of the Hospital (Hawaii Hochi, September 23, 1932; Hawaii Hochi, October 2, 1933).

Japanese Hospital depended heavily upon the resources of its ethnic community. During this period, the Japanese Hospital was considered one of the largest and the most prominent ethnic institutions in the Japanese community.

Each of the Honolulu hospitals was ethnically different during this period. They were also in competition with each other in their attempt to expand, maintain quality services, achieve financial stability and acquire the most up-to-date medical technology available at the time. The Japanese Hospital was very much concerned about achieving a sense of professional legitimacy and about shedding its second-class status, since it was yet to be accredited.[g] As a consequence, any further financial drain on its plans to attain professional credibility among the other hospital administrators, and to expand the facility, required the request of building funds from its ethnic community base. Although the need to overcome a second-rate sense of ethnic status was an important motivating factor in assuring contributions from the Japanese community, the money that came in from the drive was not sufficient. More funds were needed. Despite being in competition with, and attempting to compensate for, its lower reputation relative to Caucasians, it is noteworthy that the hospital actively solicited contributions from other groups as well, such as the Caucasian plantation companies, the Christian societies and the local Community Chest of the time.[h,20] This attempt to establish the Japanese Home for the Aged may therefore be said to have been the result of a competitive perception of race relations by the Hawaii Japanese, and at the same time there was a sense of interdependence with the dominant Caucasian group.[21]

**Summary and Conclusion**

This discussion of the genesis of the Japanese Home for the Aged in the late 1920s and early 1930s points out numerous interacting exogenous and endogenous factors that have resulted in the emergence of a particular organizational solution to a community problem during the evolution of an ethnic hospital. In addition to the relative congruence of elder care to the core traditions of the Japanese immigrant population, which is the most popular explanation for the development of what was to be later known as Kuakini Home, this report has attempted to explore other, perhaps more significant, factors in the evolution of Kuakini Hospital and Home.

Among the exogenous factors, there was the growth of modern medicine and its trend to utilize hospitals as workshops in which to practice its attempt to cure acute illness and injury. To do so, there was a need systematically to move out the convalescent and chronically disabled patients. We also described the effects of the presence of a high ratio of immigrant men, as well as an immigration policy that prevented this imbalance from being equalized.

Ultimately, the third and perhaps the most important exogenous factor was the social breakdown of traditional consanguineous relations. Based on traditional practices, unmarried older men had been usually cared for by their eldest brother's family. Unfortunately, the distance from Japan and the length of separation eventually resulted in the elimination of this option.

There were three endogenous factors as well. First, the characteristics of the "benevolent care patients" indicated that these were generally older, impoverished patients who had increasingly longer lengths of stay. The financial burden of caring for this group by the hospital became increasingly difficult.

A second factor was the hospital administration's systematic attempt to achieve economic efficiency by choosing one of four options. The establishment of a hospital-based Japanese Home for the Aged turned out to be most cost-efficient. The third and final endogenous factor was the impact of the search for $51,000 for the construction of the facility. The hospital apparently utilized its sense of inter-ethnic competition within the Japanese immigrant community, combined with the "noblesse oblige" of the dominant Caucasian society of that day to assure the attainment of its goal.

Since that time, new issues affecting the present Kuakini Home, as it is referred to today, more than a half century later, have arisen. After its integration into Kuakini Medical Center's multi-level, geriatric-care facility in 1979, the services of the Kuakini Home have become a part of the larger Kuakini health system. Kuakini Home is now serving more elderly Japanese women, given the changing complexion of the Japanese population. The program's relocation into its new, more costly setting has imposed new problems in achieving cost-efficiency. It has had to increase its revenues by accepting only "non-benevolent," private-paying clients.

This program may once again need to be re-evaluated for possible relocation into a less costly setting. Regardless of its eventual destiny, this program — the first in Hawaii and certainly one of the first in the United States — has been a continual reminder to the hospital of its historical involvement with the elderly patient. As the springboard for the expansion of its comprehensive, geriatric services program, beginning in the early 1970s, Kuakini Home will continue to remain a part of Kuakini's nexus of services in the foreseeable future.

g. Administrators of the Japanese Hospital were continuously reminded of its standing relative to the Caucasian-dominated Queen's Hospital, therefore their desire to improve its status. Dr. Tokue Takahashi, chairman of the Japanese Medical Society, for example, made the following remarks at a meeting on capital improvements project, in 1937.

"The X-ray equipment that we plan to introduce here at the Japanese Hospital will have a 220,000-volt capacity. This type of X-ray equipment is used only in a few leading hospitals in Japan. I think that the Queen's Hospital will be introducing this unit eventually. If we have this equipment now, we can overtake Queen's. In addition, I know of an operating room with an air-conditioning system only at a hospital in Los Angeles. Needless to say, even Queen's does not possess this type of facility. If we can set such a system up, the Japanese Hospital would be able to take the lead in quality despite its outward appearance" (Japanese Benevolent Society 1939:18).

h. The financial support from the predominant Caucasian community, for the Japanese Home for the Aged, amounted to $12,332.37. This came from sugar plantation companies and Christian churches. This accounted for about 20% of the total amount of donations raised (The Construction Committee of the Japanese Home of Hawaii, 1931).

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# YOCON®
## YOHIMBINE HCl

**Description:** Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon® is indicated as a sympathicolytic and mydriatic. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.[1,2] Also dizziness, headache, skin flushing reported when used orally.[1,3]

**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.[1,3,4] 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to ½ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.[3]

**How Supplied:** Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.




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## THE KUAKINI EXPERIENCE *(Continued)*


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# The combined use of busulfan and hydroxyurea in the treatment of chronic myeloid leukemia

Robert T.S. Jim, MD

*Busulfan (Myleran) or hydroxyurea (Hydrea) alone are usually effective in the hematologic control of the leucocytosis and thrombocytosis of chronic myeloid leukemia (CML). We present a patient in whom both drugs were required in order to control the elevated white blood and platelet counts in CML.*

**Case report**

A 65-year-old Caucasian woman was seen for fatigue and tender lumps in her thighs and legs of 1 month's duration. She had lost 12 pounds in the previous 4 months. Past history revealed frontal sinus osteomyelitis at age 15 and hypertension since age 20. Hysterectomy was done for uterus prolapse 4 years ago. A year ago she had pneumonia. Family history was negative for cancer or leukemia. Pertinent physical findings included mild pallor and splenomegaly 2 fingers breadth below the left costal margin. Laboratory studies revealed WBC 240,000 per cmm with many segs, bands, metamyelocytes, myelocytes, promyelocytes and an occasional myeloblast in her blood smear; hemoglobin 10.8 grams, platelet count 532,000 per cmm.

A posterior iliac crest bone marrow aspiration and biopsy revealed a hypercellular marrow with intense myeloid proliferation, focal small clusters of immature mononuclear cells and a few megakaryocytes. A Philadelphia chromosome study was not done. The leucocyte alkaline phosphatase was 4 units (normal 4-11).

A diagnosis of CML was made. Busulfan 8 mg daily was started and 6 days later, the WBC had risen to 340,000 per cmm. Busulfan was stopped 2 days later, and hydroxyurea 2000 mg a day initiated. Two weeks later, the WBC had decreased to 15,700 per cmm, whereupon the hydroxyurea was discontinued. However, the platelet count increased to 1,670,000 per cmm. Therefore, Busulfan was re-started. While off hydroxyurea, the WBC rose rapidly to 172,000 per cmm, requiring the addition of hydroxyurea. Three weeks later, the WBC

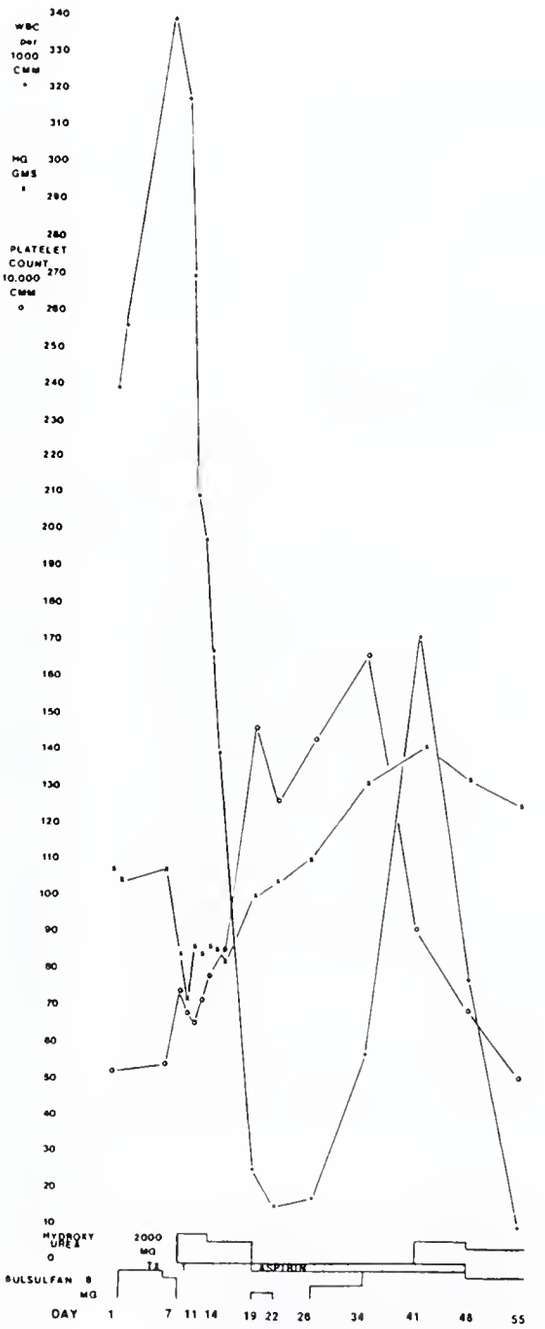



Figure 1:
The Combined Use of Busulfan and Hydroxyurea In The Treatment of Chronic Myeloid Leukemia

Professor of Medicine
University of Hawaii School of Medicine
1481 S. King St., #403
Honolulu, Hawaii 96814

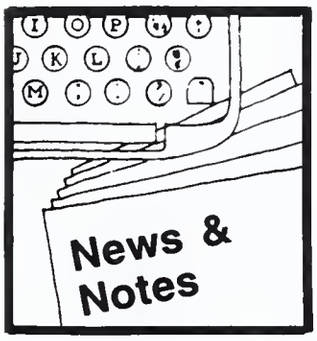
was 10,000 and platelet count 510,000 per cmm on combined busulfan and hydroxyurea therapy. The patient has remained under good control with both drugs as of this writing (See figure).

**Discussion**

Either busulfan or hydroxyurea alone usually effectively control both leucocytosis and thrombocytosis in CML. Hydroxyurea usually lowers the elevated WBC more rapidly than does busulfan. Occasionally, the thrombocytosis does not respond to hydroxyurea, although the elevated WBC is resolved. In our patient, hydroxyurea effectively decreased the high WBC, but had no significant effect on the thrombocytosis. In fact, further elevation of the platelet count occurred when the WBC had almost returned to normal. When both drugs were given, there was good reduction in both the WBC and platelet count to almost normal levels.

Possibly busulfan, given alone for a longer period of time, could have controlled both the leucocytosis and thrombocytosis. On the other hand, it may be that in a more benign form of CML, the leucocytosis and thrombocytosis might respond well to either drug by itself. However, as in our patient, whose disease appeared to be more intensive and aggressive, combined 2-drug therapy may be necessary in order to control both the elevated WBC and platelet counts. Our patient was able to tolerate both drugs without significant side effects. ■

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HENRY YOKOYAMA, MD

## Conference Humor

George Bernard Shaw once invited Winston Churchill to the opening night of his play Pygmalion with the following note: "You are hereby invited to attend our opening night with a friend, if you have one..." Winston replied: "Thank you for the invitation, but I have an earlier engagement. I will gladly attend the second night's performance, if you have one..." (As told by witty Irishman, Coleman Ryan, visiting professor from UCSF).

## Professional Moves

In January, psychiatrist Janice Friend (Diplomat American Board of Psychiatry and Neurology) relocated to Hawaii Kai Medical Office Center, 333 Keahole St...(Ed: With a name like Friend, how can she lose?)

Eye man Vernon K.S. Jim retired as of Jan 31...Patients may call for ongoing care at Cataract & Retina Center of Hawaii...(Happy retirement, Vernon. And thanks for the personal letter thanking us for past support...)

## Life in These Parts

*VOG*: The gray haze of sulfurous gases from the 7-year eruption of Kilauea Volcano continues to plague West Hawaii...Lung specialist Ben Ono says deaths from respiratory problems have increased in recent years and is calling for health studies to pinpoint exactly how vog affects our health...The County Council agrees and is forming a task force to study the health problem as well as its effect on environment and agriculture...Vog causes acid rain and has caused high lead levels in catchment water (catchment systems are used in South Kona and Kau where county water is not available).

*Cholesterol Screening*: Health Trax Inc has been sending teams out for cholesterol screening for 2 years...Terry Shintani MD, MPH is medical director...The regularly scheduled screenings are at Longs Drugs...Health Trax has screened for the American Heart Assn, Punahou School, Longs, Honolulu Club and others...In the first 10 months of 1989, its teams tested close to 40,000 people...(*Fifty Plus*, Jan 12, 1990).

*Thought You'd Like to Know* (Jan 29, 1990 *Downtown Planet*): John McCurdy, Honolulu cosmetic surgeon recently reported to the Annual Scientific Meeting of the American Academy of Cosmetic Surgery on the most popular types of breast implants since 1985...a. Standard smooth silicone; b. French Meme–silicone inside and polyurethane textured surface outside; c. American textured–silicone inside, silicone textured surface outside. It seems that textured implants retain greater softness than the standard smooth implants...The American textured shows more benefits than the French textured...

*Legislators May Order Screening Mammograms*: The state auditor reported that if the state legislature orders insurance coverage for screening mammograms, medical plan premiums may rise by 41¢ per month...Mammogram charges range from $50 to $130...Paul DeMare, American Cancer Society official with the Breast Cancer Detection Awareness program agrees with the state auditor that "the bottom line is that the best way to decrease the morbidity and mortality from breast cancer is through the early detection which mammograms provide..."

*Funding Long Term Health Care?* The legislature auditor was asked to study the concept of long term health care insurance program through tax revenues from health care services...The auditor recommended that state legislators reject the idea...The catastrophic expenses of long term care quickly deplete personal assets so many people have no recourse but to turn to Medicaid, thus placing an increased burden on the state...

## Hors De Combat

*Planning for Long Term Care* (From *Hawaii Investor*, Feb 1990...by William Sullivan)
Facts: 1. By 2030, 20% of all Americans will be 65 or older; 2. Two out of every 5 people age 65 or older risk entering a nursing home; 3. Medicare pays less than 2% of all long term nursing care bills and about 7% of all long term care costs; 4. More than one-half of the single older people ending in nursing homes go broke within 6 months...

The average nursing home costs $25,000 per year...30 years from now the cost is expected to triple...At present there are 3.4 members of the working force to each retiree receiving social security benefits...In 40 years, there will be only 2 working persons per social security retiree...

The RX is savings: Options include 1. Self-funding–Annuities (either fixed or variable); 2. Insurance: a. Individual long-term care (LTC) policies...Premiums are $100 to $10,000 per year or more depending on your age, the deductible period and coverage desired; b. Group long-term care coverage through various insurance carriers...

Adequate funding of long-term care needs is one of the biggest issues of our time...Congress and private sectors must prepare for the escalating costs accompanying the aging of the baby boom generation–those born 1946-64–a group which comprises one-half the entire adult population...Meanwhile, the best defense is to prepare for the future with greater savings and wise management of those savings...

## Sportsmen

*You Run, I Ride*: "The fellow spinning around Aloha Stadium in a golf cart at the Great Aloha Run Feb 19 won't be a Pearl Country Club member gone astray...He'll be Dr Bernie Chun, a volunteer from QMC, who for the past six years has been seeing to those finishers who may need medical attention..." (from "Hawaii" by Dave Donnelly).

*Belated News:* The 1989 Annual HCMS Golf Tournament was held on Oct 12 at Kaneohe Clipper Golf Course...The physician winners were as follows: George Takushi (22) and Neil Shibuya (24) were tied for low net at 65...At net 67 were Gordon Ontai (21), Francis Fukunaga (20) and Robert Palmer (21)...Net 69s: Emie Yim (17), Henry Fong (11); Franklin Wong (10); and Ijaz Rahman (25)...Net 70s: Steven Berman (17), Stephen Hirasuna (10), George Shimomura (22), and Bill Dang (17)...Net 71s: Tad Iwanuma (11), Eugene Matsuyama (12), and Clifford Chang (16)...Net 72s: Jim Navin (12), Bill Morioka (18), and William Sheehan (14)...

The 1989 Annual HMA Golf Tournament was held Nov 11 at Royal Kaanapali...MD winners were: Mike Okihiro (5) with net 68 was both low gross and low net winner...Robert Palmer (21) also had a net 68...At net 69 was Robert Oishi (18)...At net 70 were Bill Dang (18) and Henry Fong (12)...Wayne Nadamoto (15) shot a net 71...The drug rep winners were John Hee with overall low net 67, Ray Maruyama

with net 69, Keith Yamamoto and Kent Koike with net 72s...

The HMA Tennis Tournament was held at the Royal Lahaina Tennis Courts...Men's Division I Doubles: 1st place: John Betwee; 2nd place: John Drouilhet...Men's Division II Doubles: 1st: Milton Yolles; 3rd: Gregory Park; Mixed Doubles Men's Division I: Jim Benden/Dennis Maehara; Men's Division II: Joseph Kamaka/Doug Soderdahl...

* * *

The Roasting of Henry Yim by Ross Hagino (at Henry's Hole-in-One gathering last Oct 27):

"Berna Yim asked me to say a few words about Henry. She said just be honest.

"I've known Henry for quite a long time. Certainly longer than has Berna and most certainly longer than have Greg, Robin or Chad. He has been a good husband and a good provider for the family. Most of you think of him as being well groomed, successful, a religious person who is generous and forgiving, a veritable paragon of virtue.

"I have a secret to tell you. Henry Yim is a Jeckyll and Hyde personality. It is pretty obvious that he is successful. He has a wonderful house, two Jaguars and a Mereedes in the garage. He has a beautiful wife, two of his children are medical doctors and a third is in dental school. His wife can have everything she wants. Charities find him very generous.

"On the golf course, Henry becomes a Mr. Hyde. He invariably wears plaid shorts with a plaid or striped shirt. He keeps them in the locker. Berna doesn't know this because he never takes them home to launder. He does, however, have an assortment of caps. It could be a black coolie cap, a bright red jockey cap or whatever he keeps stuffed in his locker.

"I think I can best illustrate the Mr. Hyde character by a few actual examples that come to mind. The other week on the first tee, after three of us had sliced, hooked or popped our balls, Henry hit one straight down the middle. He then looked around innocently and asked 'Did anyone see where my ball went?'

"Once I was playing in the foursome behind Henry on the second hole. I saw him lob his third shot into a greenside trap. The next thing I saw was a cloud of sand shooting out of the trap, four to five times in rapid succession, accompanied by words his cousin Father Yim would not approve.

"Then there was the unforgettable sight on the fifth hole just before the water fronting the green. Henry had apparently missed the green and he was on his back on the fairway with both hands and feet waving at the sky. He looked like an upturned beetle.

"Dr. Yim is a medical doctor, a man of science not swayed by superstition. One day after a torrential rain during the first nine holes at Mid Pac we were all laden down with rain jackets and various other gear. Henry had shot a very good nine. The sun came up. I must mention that we were walking. As we were trudging up to the 14th hole, I asked Henry who was sweating away under his rain hat and rain jacket why he didn't take them off. The rest of us were in T-shirts. At first he mumbled that it might rain again but he finally confessed that he was playing well and did not wish to change anything.

"Dr Yim as Dr Jeckyll would not think of straying from the rules but Henry Yim as Mr. Hyde will skirt the rules of golf very closely. Recently on the 15th hole, he putt his ball so that it rested on the edge. Only an earthquake of Richter 7 would have moved it but Henry cautiously approached the hole, moved everybody away, pointed to the sky and jumped up and down. His excuse for jumping was that he was shaking from excitement. No, the ball did not fall in.

"As I mentioned, Dr Yim is very generous but Henry the golfer is very tight-fisted. He will never give you a stroke and if he beats you for a quarter, you had better pay it or he'll send you a bill.

"While relating these TRUE stories about Henry, I thought about the other golfers I play with and I think Henry Yim is just a typical AVID golfer." (Ed: Our thanks to Ross Hagino and many apologies to Henry Yim.)

## Physicians Speak Up

George Starbuck (Emeritus Prof of Pediatrics) writes: "Currently we are confronted with a decision either for or against free distribution of sterile needles and syringes...My first priority at this time is to prevent hepatitis and AIDS..."

* * *

Philip Hellreich, legislative chairman, Hawaii Federation of Physicians and Dentists feels that kids with VD shouldn't have to tell their parents...Current Hawaii statutes exempt the treatment of VD from parental notification and consent...GOP party chairman Andy Anderson is proposing that parents be notified...Philip says, "Most physicians, especially those of us who consider themselves Republicans, earnestly hope the GOP chairman will not push for a party platform that would return the practice of medicine to the dark ages..."

## Conference Humor

(From the Hawaii Thoracic Society clinical symposium: Management of Respiratory Diseases

*(Continued on page 138)* ►

## Conference Notes

Visiting professor Patriek Joseph from UCSF spoke on "Community Acquired Pneumonia" on Friday, Feb 2 at Mabel Smyth. Here are notes therefrom...

The clinical science of infectious diseases...introduces more antibiotics than anyone can memorize...and periodically changes the names of bacteria, fungi and viruses...

The treatment of pneumonia is easy if you know the cause, eg pneumococcal: use Pen G...but what to use before cultures come back...Take a look at the sputum...But the gross characteristics of sputum are inaccurate...We were taught that rusty colored sputum was pneumococcus, green sputum was pseudomonas, currant jelly sputum was Klebsiella...A 1970 Hartford study of normal oropharyngeal flora in adults were as follows: Strep pneumoniae, 30%; staph aureus, 25%; H. Influenza, 40% (but physicians probably have 50% Strep pneumoniae).

*Spit vs Sputum:* Spit has no pus and many epithelial cells while sputum comes from the lower lung and has more pus and fewer epithelial eells...

*Criteria for Adequate Sputum specimen:* More than 25 polys per low-power field or fewer than 10 epithelial cells per low-power field.

| **Bacterial Morphology** | **Presumptive Etiology** |
|---|---|
| Gram (+) diplococci | Pneumococcus |
| Gram (-) cocco-bacilli or thin gm (-) rods | H. influenzae |
| Gram (+) cocci in groups or tetrads | Staph aureus |
| Encapsulated or fat gram (-) rods | Klebsiella |
| No organisms seen, no predominant organism | Atypical pneumonia, eg, Mycoplasma, viral pneumonia, Legionella |
| Gram (-) diplocci | Moraxella |

The rate of climb of Beta lactamase positive H. Flu is equal to Staph Aureus...If you suspect H. Flu, give 2nd generation cephalosporin...Gram negative diplococci is Morexella (Neisseria Catarrhalis) since gonorrhea never causes pneumonia...

**Common Lower Respiratory Pathogens:**
- Strep pneumoniae
- H. Influenzae
- Moraxella catarrhalis
- Staph aureus
- Klebsiella pneumoniae
- Mycoplasma pneumoniae
- Legionella pneumophila

*Quotes:* "Twenty-five percent of Hemophilus species eat Ampieillin for breakfast (ie, they are Beta lactamase (+))."

"You're never too old for sex or myeoplasma..."

"A sputum culture without a gram stain is like having a condom and no date..."

"If a patient is afebrile 36 hours, then go to oral therapy."

"Always take erythromycin with meals...Even if the FDA says take on empty stomach..."

**Empiric Therapy for Community Acquired Bacterial Pneumonia**

| **Clinical syndrome** | **Likely pathogen** | **Parenteral** | **Oral** |
|---|---|---|---|
| WBC less than 15,000<br>Normal differential | Mycoplasma | Erythromycin<br>500-750mg<br>IV q 6h | Erythromycin<br>500mg qid |
| WBC over 15,000<br>Left shift | Pneumococeus<br>Haemophilus<br>Moraxella<br>Staph aureus<br>Klebsiella | Cefuroxime<br>750-1500mg<br>IV q 8h | Cefuroxime<br>250-500 bid |
| Suspect Legionella | Legionella or above pathogens | Erythromycin + Cefuroxime | |

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## NEWS AND NOTES

*(Continued from page 135)*

sponsored by Glaxo and held at Hilton Hawaiian Village Feb 2, 1990) The case of gonococcus pneumonia: The patient in the ER insisted that he had had gonorrhea pneumonia..."I came to this emergency room...They sent me to an expensive care unit...They stuck my lung with a tube coming from the wall...They said I had a case of 'claps' lung..." (As told by VP Patrick Joseph from UCSF).

* * *

Two elderly ladies were rocking back and forth on their nursing home porch somewhere in the midwest...while they reminisced...Mary was curious: "Agnes, did you and John ever have a mutual climax?" Agnes: "No Mary, I believe we always had State Farm..." (As told by Thomas Austin Sydner from University of Virginia, School of Medicine who lectured on "Antibiotic Therapy in Acute Sinusitis").

### Miscellany

Drunk wandering through a graveyard fell into a newly dug grave and couldn't get out...He kept yelling for help: "Get me out of here...I'm cold..." Finally the caretaker heard him and peered into the hole..."No wonder you're cold...You've kicked off your dirt..." he scolded...(A Harvey Peltz contribution).

Murphy, the motorcycle cop, stopped an out-of-state motorist on a winding mountain road to warn him that his tail lights were missing...Murphy: "Your tail lights are out..." The motorist became quite agitated: "Oh my god! That's terrible!" Murphy reassured the driver: "It's not a big thing"...Motorist: "It may not be a big thing to you, but I've just lost a trailer with my wife and two kids back somewhere..." (Heard on KHVH radio...Paul Harvey...)

### Oncology Dialogue

Oncologist Dennis Wachi presented the case history on a 69-year-old woman who was worked up for hemianopsia... CT scans showed a large Lt hilar mass and a lacunar infarct. Bronchoscopy showed constriction of the Lt main stem bronchus and biopsies were taken. Pathologist Larry McCarthy described the slides as showing small cell Ca, intermediate, and reported that the nodes were positive... Moderator Glenn Kokame was curious: "The patient also had a mediastinoscopy (with a Chamberlain procedure)...Shouldn't the bronchoscopy have been sufficient for the diagnosis?" Larry elucidated: "Yes, but then the surgeon did not know that at the time." Dennis explained, "We plan a combination chemo and radiation...She also stopped smoking when we made the diagnosis..." Glenn: "To stop the cancer from growing? Ed, what percent of small cell Ca metastasize to the brain?" Radiotherapist Ed Quinlan replied: "About 30%..." Glenn: "The 2-year survival for oat cell is 10%...Is there any mental aberration from radiation?" Ed: "Yes, so we have limited our dose...There is demyelination after 2 years..." Oncologist Ken Sumida reported: "We've seen severe dementia in the elderly..." Jeff Nakamura added: "We're even dropping radiation from therapy in some elderly for that reason..." Glenn quizzed: "Stemmy, what is the epidemiology of oat cell Ca?" Grant Stemmerman: "Same as in squamous cell Ca of the lung, ie smoking..." With reference to post radiation dementia, Stemmy waxed philosophical: "I don't think the dementia is that bad...Better to die from the top down than from the bottom up..." Someone clarified: "Less pain, I guess..." ■

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| EXTERIOR | 4 | 9 | 4 | 7 | 4 |
| INTERIOR | 3 | 7 | 5 | 7 | 5 |
| COMFORT | 2 | 5 | 7 | 9 | 5 |
| ENTHUSIAST'S CAR | 9 | 10 | 5 | 7 | 5 |
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| **TOTAL** | **40** | **64** | **63** | **90** | **43** |

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# Council Capers

## February 2, 1990

It was a bright and sunny day, almost two weeks ago, that I boarded my flight to Honolulu for the HMA Council Meeting and for the first time in years my flight was delayed for over an hour on my favorite airline.

**Chow . . .** I was still feeling the post-op discomfort of three dental implants done only a week earlier. But, promptly at 5 pm, a delicious Japanese buffet, brought in by a Honolulu delicatessen, made me forget my dental discomfort.

**Bisniz . . .** Slender, Gorbachev-like, President John Kim called the meeting to order and the first order of business was to *refrain from endorsing* Hawaii Medical Service Association's (HMSA) request to continue as the fiscal intermediary for the DSS (Medicare) State Program. (It has been my opinion, as stated in previous Capers, that HMSA could be more cooperative and more understanding with physicians' requests and method of reimbursement than they have been in the past).

The HMA Council did approve and endorse HMSA's proposal for the SHIP program to provide medical care for the State's uninsured sector and to hope for a smoother relationship and understanding in regard to physician reimbursement, if it is passed by the Legislature.

**Lagniappe:** Dr. Bernard Fong once told me that there are three stages in Life:

1) Milk age
2) Beer age
3) Orange juice and/or the MOM (Milk of Magnesia) age.

How true his statement was since I as a pediatrician deal with the first stage, I must confess that I belong to the last stage of OJ or MOM - nuff said!

**Members & Money . . .** It was encouraging to see an increase of 74 total members, to 1,807 since a year ago January; however, there has been a drop of three from the Active Full-pay members since last year. Maui and Kauai counties showed an increase of three more members each. Maui has a total of 127 members, 97 of whom are Active Full-pay members. Way to go! Let's top the 100-member mark to get more representation on the Council and House of Delegates.

It is a sad commentary that total membership has been stagnant and dropping. Get involved! Your association has been doing a lot for each and every physician practicing in Hawaii and you and I know it. There is absolutely no reason not to belong to the HMA and the AMA. (The last House of Delegates meeting held on Maui did show a deficit but not as much as anticipated.)

Now back to the HMA dues, which I have been paying for 24 years. There have been many lean years for me; but if you would consider the almost 40 different committees, numerous benefits, let alone the representation the Legislative Committee pursues on our behalf, it would be shameful for me not to be a member of the HMA and AMA. I know, being a pediatrician, I must see many, many patients in order to afford to pay my dues, but still I would feel ashamed not to belong to an organization whose primary goal is to see to it that I offer better care to my patients though its efforts.

**Law & Health . . .** The Legislative report was voluminous in the sense that over 3,500 bills have been entered with some 250 health related bills introduced in *each* house. I guarantee you that your HMA committee members will represent each and every one of you to the fullest extent, sacrificing their time, effort and in many cases loss of income from their practices.

**Biodyne . . .** The HMA Council again reiterated its displeasure of the HMSA/Biodyne affiliation.

**Malpractice . .** The MCCP (Medical Claims Conciliation Panel) report for 1989 showed that there has been a decrease in the number of cases from 155 in 1985 to 55 in 1989. Good news!

**Potpourri . . .** Dr. Donovan Ward, AMA past President, was presented with a wine and fruit basket and a beautiful HMA Aloha shirt on his recent visit to Honolulu and Maui. He has been a proud, honorary HMA and Maui County member for over 15 years. As CEO of the American Health Care Association Foundation, he asked me to present a check for $10,000 to the On Lok Society in San Francisco on January 12, 1990, on behalf of this Foundation. This Society is active in eight states, helping elderly patients and providing medical care on an outpatient basis. Dr. Samuel Sherman, past president of the California Medical Society, and I spoke to over 600 people at the Empress of China Restaurant in San Francisco. This society is doing a fine job and hopefully will expand to include Hawaii soon.

Denis J. Fu, MD
Councilor

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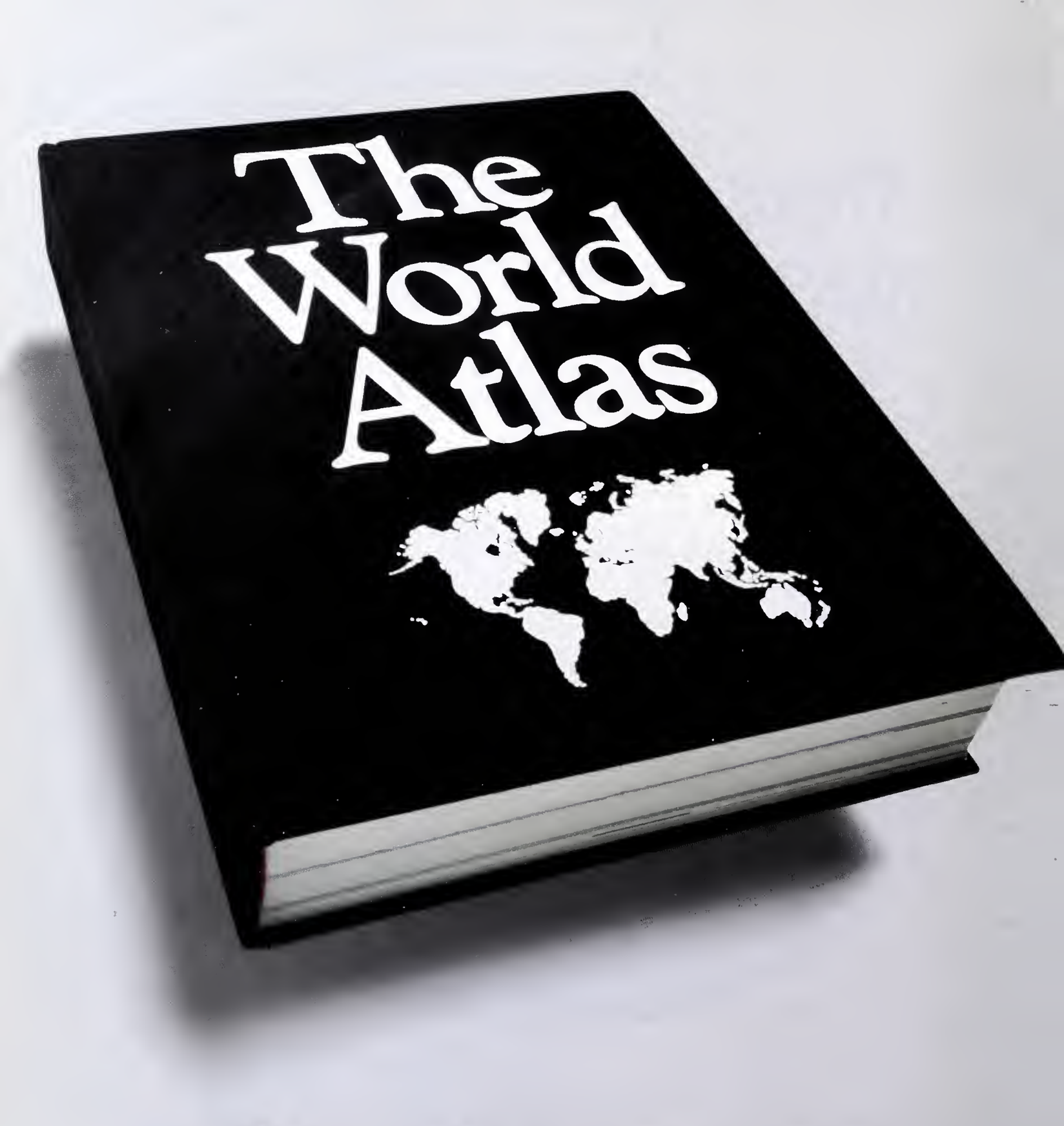


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## CONTENTS

HIGHLIGHTS OF THE HMA COUNCIL MEETING 146
April 6, 1990

EDITORIAL 149
PVS: Persistent Vegetative State
J.I. Frederick Reppun MD

COMMITTEE REPORTS 152
Chronic Illness and Aging Committee
March 21, 1990
J.I. Frederick Reppun MD

COUNCIL CAPERS 154
March 9, 1990
Denis J. Fu MD

LETTER TO THE EDITOR 154

CONTINUING MEDICAL EDUCATION 156

ABORTION I 157
Wilmot Burgess Boone MD

ABORTION II 157
Evan Beachy

INTERLEUKIN-3 AND ANTI-AGING MEDICATION: A REVIEW 160
Yu-Kun Chien MD
Yu-Hong Liu MD
Douglas G. Massey MD

LEPTOSPIROSIS: A POSSIBLE CAUSE OF "ASEPTIC MENINGITIS" 162

READERS EXPRESS THEIR VIEWS 164

NEWS AND NOTES 166
Henry Yokoyama MD

OVER THE EDITOR'S DESK 172
ABA Endorses Uniform Act on Health Care
Decision-Making by Proxy

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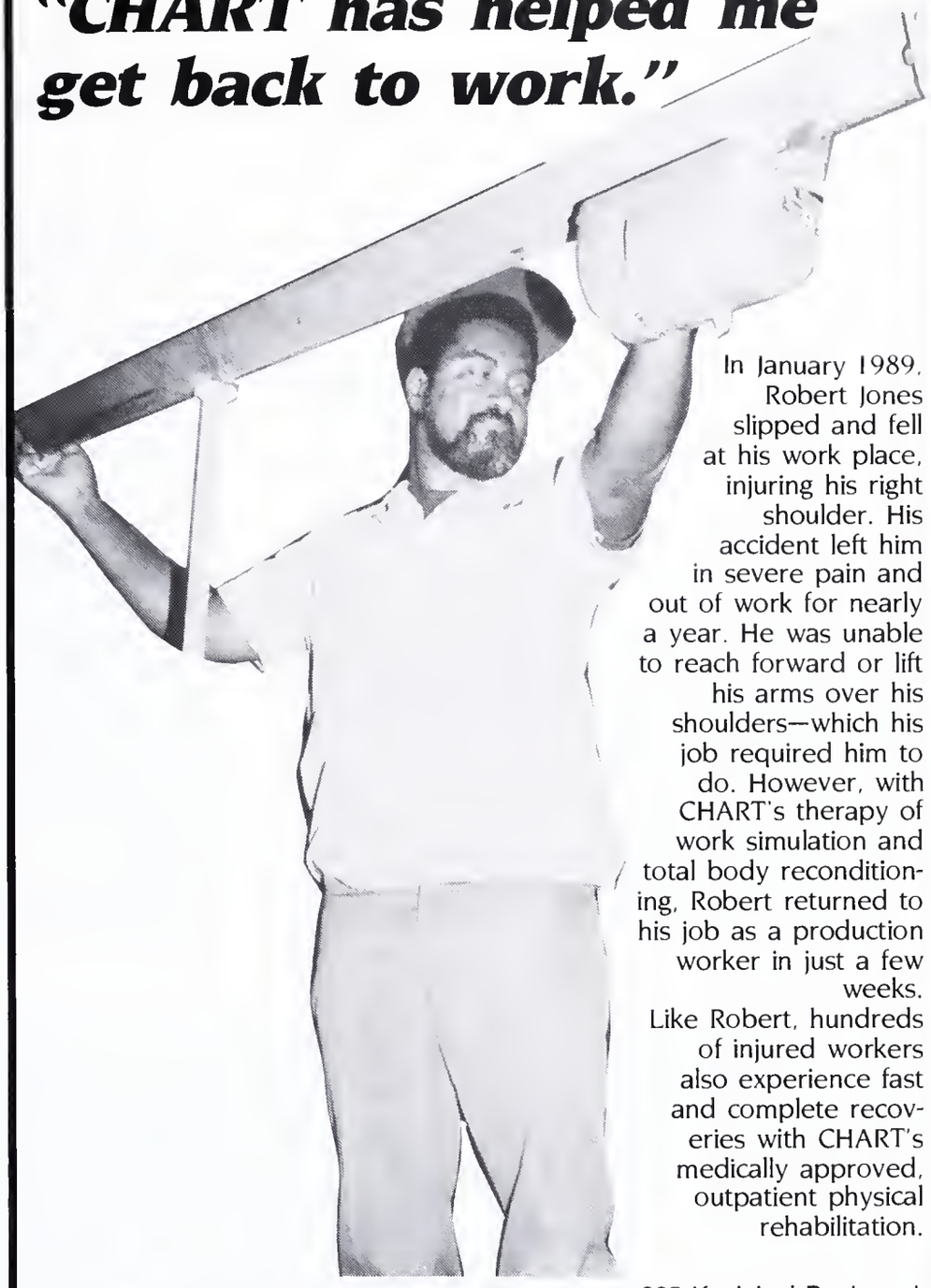
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# Highlights of the HMA Council Meeting of 6 April 1990

The meeting was attended by the following: Drs J. Kim, A. Kunimoto, J. Chang, J. McDonnell, M. Shirasu, C. Kam, R. Stodd, F. Holschuh, D. Heeney, S. Wallach, R. Weiner, H.K.W. Chinn, P. DeMare, J. Spangler, E. Bade, R. Goodale, D. Fu, H. Percy, G. Mills, G. Goto, J. Lumeng, W. Chang, and E. Matsuyama. Also present were: Dr. F. Reppun–Editor HMJ, V. Woo–Legal Counsel, Mrs. S. Wong–Auxiliary President, and Medical Students E. McGuire and N. Kaneshiro. Guest present was Ms B. Caldwell, RN. Staff present were: Mr N. Jones, Mmes B. Kendro, J. Asato, P. Kawamoto, J. Estioko, C. Sugita, L. Funai, and M. Lindsey–recording secretary.

The meeting was called to order by President Kim at 5:30 PM. Secretary Shirasu clarified the question on the Action as recorded in the January 2, 1990 minutes regarding the medical no-fault insurance proposal. The minutes stand correct as recorded, and were approved. Two minor corrections were pointed out and corrected in the recorded minutes of the February 2, 1990 Council and the minutes were approved.

Pres John Kim reported in the absence of Kim Thorburn, chairperson of the AIDS Committee, that the Committee had been asked to support an appeal to the State Insurance Commissioner which would require applicants for health, disability and group life insurance policies be tested for HIV infection (this would not include applicants for personal life insurance, because such testing with the applicant's written consent is already in force). Thorburn and the Committee wished guidance. The Council gave the President authority to deal with this at the Executive Committee level, voicing consent in the abstract.

After John Kim reviewed the course of HB 3435 through the Legislature that would have permitted nurses to prescribe drugs, there was a considerable discussion in terms of the satisfaction gained from rallying the forces of organized medicine to defeat what everyone agreed would be detrimental to our patients. The bill died, as did the resolution to initiate a compromise.

The Council approved Treasurer Jeanette Chang's financial report and the Finance Committee's recommendations on Jon Won's suggestions, namely: (a) That the HMA allot $1,000 to each component medical society annually, to be used as needed to defray the costs of neighbor island participation at HMA committee meetings that are held in Honolulu; (b) that the HMA continue to support the Play-It-Safe program for children to the tune of $1,000; and (c) that it contribute $250, plus reproducing and mailing a flyer, to Smoke-Free-Class of 2000 to provide instructional material to young children about the ill-effects of smoking.

Pres Kim announced that Stanley Snodgrass, long time activist for the Hawaii Hospital Association, now called the Healthcare Association of Hawaii, was retiring. The Council ap-


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proved HMA's providing him with an appropriate retirement gift.

The Council also approved, with unanimous enthusiasm, that a suitable gift be given to our Executive Director Jon Won for his 25 years of service to HMA and at the same time numerous voices were raised in praise of the fine staff we have under Jon's direction.

Becky Kendro reported on doings at the legislatures: 1. The generous outlay for prenatal care was likely to pass; 2. SB 3079 designed to pay all physicians more adequately for the care of Medicaid patients was moving ahead; the drop in physician participation in the Medicaid program between 1988 and 1989 had gone from 90.4% to 83%; 3. the needle-exchange bill was still moving; 4. a great many bills that the HMA had opposed were killed–a victory for the negative; 5. informed consent amendments in order to protect the care-giver from HIV infection did not survive; however, a resolution calling for a bill of rights for health-care workers passed; 6. Becky regretted that HMA staff was unable to monitor all the bills on the environment–the staff had its hands full monitoring just the 500+ medical bills–much to the disappointment of member Steve Moser on Maui who chairs that HMA committee.

At the March 7 HMA Legislative Reception Pupu Party at the downtown YWCA only 33 legislators attended. About 2,100 invitations were sent out to the legislators, their staff people, all HMA members, government officials and others; a total of 142 attendees were counted. The question was asked, "Is this project worth it?"

Pres-elect John McDonnell introduced Bonnie Caldwell RN who spoke briefly on behalf of Hawaii Youth At Risk's Community Outreach Program, to enlist volunteers from the medical profession. It plans, under Executive Director Marcus Robinson, to inaugurate a Ten-Day Course, an event featuring rigorous physical and mental exercises designed "to produce breakthroughs for the youths." It needs some 80 adults volunteers to form a team to supervise a group of 85 youths expected for the event to begin on June 15. Members interested in serving are advised to call Sandy Hamano at 734-6738.

J.I. Frederick Reppun MD
Reporter-for-the-last-time

## Erratum

In the article "Closed-chest electrical ablation (fulguration) of atrioventricular accessory pathway in the Wolff-Parkinson-White Syndrom: Report of the first case in Hawaii" (HMJ, March 1990), the last full sentence on page 94, second column should read:

> During ventricular pacing, there was complete ventriculo-atrial dissociation suggesting that the accessory pathway was eliminated (Figure 5).


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# PVS: Persistent Vegetative State

Hawaii Public Television aired a two-hour review of the Nancy Cruzan case the evening of December 13, 1989. It was introduced by TV commentator Judy Woodruff on "Frontline" and reflected the ongoing monitoring of the case by TV cameras the past 21/2 years up to the very recent U.S. Supreme Court hearing of the arguments pro and con. The program concluded with a roundtable discussion moderated by Fred Friendly, with doctors, lawyers, a journalist and a priest participating. It was a very well-done documentary that impressed us with the educational potential of TV to reveal to a large audience of citizens the facts and the pros and cons of decisions on important issues, without having them interpreted by third parties in the media. This is real democracy at work, wherein each citizen can draw his or her own conclusion.

The issue at hand boiled down to whether the State — society — has an interest in determining whether prolonging — or terminating—the life of a person in a persistent vegetative state, supercedes the person's previously expressed desire *not to* be kept alive in such circumstances, confirmed by a consensus support for such a position by the person's family.

The facts of the case seem to be credible. Twenty-five year-old Nancy was found by the emergency vehicle crew to be lying face down in soft mud and snow after an auto accident; she was not breathing, had no detectable blood pressure or pulse. Her cardio-respiratory system was revived but Nancy never regained consciousness. The cerebral cortex had "died" as a result of anoxia and ischemia of unknown duration but obviously for too long a period of time.

We then see her in a hospital bed, by then in a longterm care facility, being fed regularly through a gastrostomy tube but with no other mechanical intervention. She is like a pithed frog in a school biology class; her eyes and mouth open and close, her body reacts reflexly to pain stimuli; she is obviously well-nourished and "healthy," can breathe on her own but cannot swallow. She shows no cognitive affect whatever; her father, mother, married older sister and two nieces hover lovingly and frequently above her, trying to elicit a cognitive response. A consulting neurologist confirms the PVS. She is now under the guardianship of the State of Missouri, which has assumed the costs of her care for most of the past six years.

Interestingly, we have not been told anything about how the initial acute care was funded and for how long, but obviously whatever insurance and private money there was had run out, understandably, since the family's income was meager. Probably, the decision to insert, surgically, the gastrostomy tube had been made prior to the initiation of long-term care under the state's Medicaid program.

Here lies the first dilemma and the first decision-making hurdle. The documentary did not dwell for long on this hurdle, but in the roundtable discussion at the end of the program, it was addressed. We can understand that at this point, the family's hopes for ultimate return of cognitive affect are high. We were not told about how that hurdle was approached by Nancy's attendings; did they explain to the fullest what the prognosis was? Was it done at a time sufficiently far removed from the original insult to Nancy's brain to allow the attendings to be sure that there was no hope of recovery? Was there a failure of proper and adequate presentation, or was there a failure of understanding by the family, or a non-consensus within it? Or, was there no conference with the family at all, but an arbitrary decision based on hospital rules or the State of Missouri's laws?

A telling point of the whole issue was brought out at the roundtable: That to initiate nutrition and hydration leads inevitably to the end of the road, when the decision to terminate such measures cannot be extricated from the much more difficult and awesome decision, as in this Cruzan case, to deliberately *end* life—"murder," some call it! This tells us physicians how important it is to concentrate on the beginning of the road, to make much more important the consensus that is needed between the family, the state, the law, the clergy, the ethicists and the physicians, before any life-prolonging measures are initiated.

Again, understandably, the family, after long soulsearching, and about four years down the road, decided that both they and Nancy had been suffering enough: Nancy having expressed verbally in the past never to be put into such a state; her relatives ravaged by the torment of seeing Nancy "living" but not "alive." They asked that the hydration and nutrition be terminated and that their Nancy be allowed to die.

The State of Missouri refused to comply, based on the law in that state and also as the guardian of Nancy's person. What was not brought out in the documentary was the fact that, legally, Nancy no longer "belonged" to her family, in one sense of the word "belonging." She was a ward of the state; the sovereignity of that state over its citizens included paying for their welfare when they were unable to care for themselves. The State was in loco parentis; although Nancy was an adult, being a patient and unable to care for herself – like a child – the State's guardianship assumed a parental responsibility for her care. Therefore, it asserted its right to differ with the wish of Nancy's blood relatives.

The family consulted a young lawyer from a large firm, one who dedicated himself to furthering their cause all the way up to the U.S. Supreme Court. The case went to the lowest court — the one most closely concerned with the community's issues. The Cruzan family won permission to terminate. How-

▶

# Our First Report Card.

Recently, *Automobile Magazine* assembled five of the world's newest luxury sedans. For four days, the editors evaluated this high-performance quintet on such critical matters as ride, handling, comfort and value.

**AUTOMOBILE**

LUXURY CAR COMPARISON

| | Audi V8 | BMW 535i | Infiniti Q45 | Lexus LS 400 | Mercedes 300E |
|---|---|---|---|---|---|
| ENGINE | 3 | 7 | 11 | 10 | 3 |
| TRANSMISSION | 5 | 4 | 9 | 9 | 1 |
| RIDE | 1 | 5 | 5 | 10 | 5 |
| HANDLING | 9 | 7 | 6 | 8 | 6 |
| NVH (Quietness) | 1 | 6 | 6 | 14 | 6 |
| EXTERIOR | 4 | 9 | 4 | 7 | 4 |
| INTERIOR | 3 | 7 | 5 | 7 | 5 |
| COMFORT | 2 | 5 | 7 | 9 | 5 |
| ENTHUSIAST'S CAR | 9 | 10 | 5 | 7 | 5 |
| BEST VALUE | 3 | 4 | 5 | 9 | 3 |
| **TOTAL** | **40** | **64** | **63** | **90** | **43** |

*Subjective scoring reprinted from Automobile Magazine, Nov. 1989. A total of 300 points were allocated among the editors and spent freely as each saw fit.*



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ever, the state appealed to its supreme court, which in due course, reversed the lower court's decision.

The State of Missouri's attorney general need not have appealed the case. However, we have to accept the fact that he was conscientious in serving the state and upholding its laws, one of which forbade termination of life, particularly in the absence of documented wishes of the patient. (The argument whether the Constitution of the United States was involved pro or con entered into the discussion on the screen, but was actually unresolved. Colby, the Cruzan's lawyer, argued first that the Constitution protected the family's, and Nancy's, "liberty" to decide, then switched to her "privacy" being invaded by the state — matters now before the U.S. Supreme Court.)

The family considered transferring Nancy to a state that had more lenient laws, but realized that that, too, could be forbidden, once their intent was known. The same went for the family's taking her home, although that possibility was not explored in detail in the documentary, nor by the roundtable. All we were told was that by then, Nancy had become a "pet" of the hospital staff, who voiced their opposition to termination. The hospital's administrator voiced his opposition also. The institution was filled with such cases — life sustained by hydration, nutrition, medication and medical technology. We were informed that there are 10,000 cases of PVS in the U.S., being maintained in one way or another, and that nearly all the states that had laws applicable to PVS [including the State of Hawaii/Ed], ie legal Living Wills, excepted the termination of food and fluids despite the victim's wishes .

Therefore, the Cruzans and their attorney decided to take the case to a the U.S. Supreme Court. The roundtable posed a living picture of the issues being presented to that august national body. The TV audience nationwide, thanks to PBS, could get a vivid picture of what that Court heard at this writing, and will have to decide this spring or summer.

The issue now seems to be whether individuals of the nation, we citizens in our society, as persons or as members of our families, in deciding whether we want to be kept alive, have the rights the Constitution states "are delegated to the people, when not specifically described to the states or the federal government." Does the state have the right to intervene in what the person or the family decides is best for it or one of its members? Or, will the decision in favor of the Cruzan family's request to terminate Nancy's bodily functions and allow the body to die – to follow the death of its thinking and reasoning brain – mean the precedent will be set, as the State of Missouri argues, for non-loving families or impersonal guardians to terminate the lives of persons who are burdens, or useless, or a pain to others or to society? That is the question.

The roundtable came to no conclusion on this issue. There was considerable argument as to whether removing a ventilator was the same as removing a feeding tube or an i.v. line. Some said removing the former still allowed the patient to breathe on his own, perhaps, and not die, whereas removing food and fluids meant an inevitable sentence of death. The roundtable also got into heated arguments as to the value of a Living Will and whether the provision of food and fluids was different from administering medications or oxygen — with no consensus.

There was some emphasis placed on keeping the law out of such cases, thus allowing the person, the family and their attending advisers, whether lay, medical or spiritual, to resolve the issues on a case-by-case basis. Ex-Surgeon General Koop, a family practitioner, one of the roundtable members, was expected to defend this approach, but persisted in stating the issues were blurred, himself thus blurring the issues. Our own conclusion on the Living Will issue was, that until it went into the Hawaii Revised Statues, we physicians had a much greater latitude in working things out with the families of PVS patients until we obtained a consensus in the decision that everyone could live with. The courts were called in *only* when a conflict within the 'ohana could not be resolved, which was rare.

We say once again, PBS is to be commended for presenting this issue to all the people, but since most of the people probably missed it because it was about death, because it was a two-hour showing (the attention span of Americans overall is 90 seconds!), because it started at 9 PM in Hawaii and ended at way past most bedtime hours at 11, because it had to compete with other channels that featured violence, or sex, or sports, "Frontline's" *Right to Die?* should be shown over and over again.

J.I. Frederick Reppun, MD
Editor

## Many a True Word is Spoken in Jest

The Vicar preached a splendid sermon on creation, and spoke eloquently of the natural world. "Every blade of grass can preach a sermon!" he declaimed.

Later on, seeing the preacher mowing his lawn, a parishioner called out: "That's right, Vicar, keep your sermons short!"

[Taken from the Llanllwchaiarn, Cross Inn, Llanina, Wales UK, parish magazine, October '90]

# Committee Reports

## Chronic Illness and Aging Committee
## March 21, 1990

The Committee met with Walter Quisenberry as chairman on March 21, 1990. Those present included: Drs Walter Quisenberry, M. Lou Hefley, James Lumeng, Samuel Allison, Raymond deHay, Reuben Guerrero, J.I. Frederick Reppun, Kleona Rigney, Praphan Puapong, Verne Waite, Ms Evangeline Dunbar, HMA staff member Karen Hamada and guests Sharon Otani and Carol Imwalle.

The meeting centered on guest Ms Carol Imwalle, Executive Director of the Honolulu Chapter of the Alzheimer's Disease Association, who gave a report of considerable interest to the attendees.

Carol is a psychiatric RN with an MPH degree and a particular interest in the elderly. Even more specifically, she herself was a care-giver for four years in the case of her own mother who developed Alzheimer's. This background is similar to that of a physician's who has suffered major trauma; he is a more empathic physician as a consequence and is more likely to treat his little pediatric patient's nailpoke with special tenderness.

We were informed that the national ADA was founded in 1980; the Honolulu chapter was organized in 1982 by a group of family members of AD sufferers. Since there is no specific treatment of the disease available at this time, the Chapter's mission is purely educational, ie to instruct family members how to "live with it." The Chapter is growing as the word has gotten around to others in the community whose elders are being so diagnosed.

Imwalle stated that Alzheimer's is a real disease and "not just senility" and that the incidence is increasing as the population of elderly has steadily gone up with improved life expectancy. However, 15% of cases are in those less than 65 years of age, she said, and knows of one who is under 30.

The diagnosis is made by exclusion–by a thorough history and physical examination, laboratory work and a CT-scan of the brain or magnetic resonance imaging (MRI); the latter is preferred. The differential is focused mainly on lacunar strokes the result of vascular disease or aberrations, and brain tumor.

Imwalle reported that the Chapter is also concentrating on providing a respite program–to help the care-givers, than whose dedicated service there is no greater sacrifice of a personal life in any health care field. There isn't much money allotted to the respite program, she said. The National organization does give out money, but only in the way of small start-up grants for research purposes.

The National ADA is also pushing for more autopsies to be done, since research is based largely on careful neuro-anatomical studies of the brains of these patients. This entails the promotion of autopsies-for-free, once the major criterion for accreditation of a hospital!

The Committee felt that the local chapter should develop a "crisis call phone number" to accommodate AD care-givers.

J.I. Frederick Reppun MD

**These Golden Years**

How do I know that my youth is all spent?
Well, my get-up-and-go has got up and went.
But in spite of it all, I am able to grin,
When I think of the places my get-up has been.

Old age is golden, so I've heard said,
But sometimes I wonder as I get into bed
With my ears in the drawer, my teeth in a cup,
My eyes on the table until I wake up.

Ere sleep dims my eyes, I say to myself,
Is there anything else I should lay on the shelf?
And I am happy to say, as I close my door,
My friends are the same–or perhaps even more.

When I was young, my slippers were red.
I would kick my heels right over my head.
When I grew older, my slippers were blue,
But still I could dance the whole night through.

Now I am older, my slippers are black.
I walk to the corner and puff my way back.
The reason I know that my youth has been spent
Is that my get-up-and-go has got up and went.

But still I don't mind, when I think with a grin
Of all the grand places my get-up has been.
Since I have retired from life's competition,
I busy myself with complete repetition.

I get up in the morning and dust off my wits,
I pick up the paper and read the "Obits."
If my name isn't there, I know I'm not dead,
So I have a good breakfast and go back to bed.

Contributed by Ruth Herter
from *Kukui O Pohai Nani*, Vol XXVI No 3




# How to be popular with 8 out of 10 people in town.

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## Council Capers

# March 9, 1990

**Back then & now**.... The 133rd HMA House of Delegates meeting took place on Maui on November 10-12, 1989. I must congratulate our editor, Dr Fred Reppun, for a most concise and informative summary in the February 1990 Hawaii Medical Journal. *Every physician* in Hawaii should read this important article and realize how important the Hawaii Medical Association is to them and their medical practices. The first House of Delegates meeting was probably convened in Lahaina, Maui, (then the capital of the Hawaiian Islands), or in Honolulu (the "Gathering Place"). I can just imagine our physician forefathers arriving on horses and discussing the different medical problems of the time. King Kamehameha III was in power at the time. Western medicine (allopathic medicine) probably had to deal with soothsayers, Kahunas and herbalists. Wouldn't it be interesting to have been a physician in Hawaii way back then?

**Top Gun**.... The entire HMA Council was summoned to meet on Friday, March 9, 1990. An amazing majority of your council members responded, including your full complement from Maui. Dr John Kim called the meeting to order and presided in a Solomon-like manner.

**Mysterious surprise**.... As I mentioned last month, there were more than 400 health-related bills introduced in this present Legislature, and a surprise and unexpected bill (HB 3435) *Relating to Nurses*, surfaced from the Health Committee of the House of Representatives on February 26, 1990, and cleared all hurdles, even with opposition from the HMA delegation, and easily passed the House of Representatives by a vote of 46-5.

The substance of this bill gives prescriptive authority to registered nurses, with advanced training, for almost all medications, only to exclude Controlled Group I-V.

Now that the Crossover date is passed, the bill will next be considered in the Senate Health Committee from March 8 to 23, 1990. A public hearing in the Senate Health Committee took place on March 20, 1990. Please, please send your opinion to Senator Andy Levin, Chairman of the Senate Health Committee or to the HMA office.

The Council dutifully reviewed the bill in its entirety and a long discussion followed. The author and primary backing of the bill was not known! It was a general consensus that the primary opposition to this bill was for the protection of the public welfare and *not* just for the protection of the medical interest of the physicians.

**Brick wall**.... It was unanimously agreed to oppose the bill. A compromise was offered to meet with the different agencies involved to try to develop a suitable plan for a bill during the next two years.

**Tip of the month:** How about trying the Loco Moco at K.C. Drive Inn in Honolulu or at the Dragon Drive Inn on Maui? The service was great at the Avalon in Lahaina, but I was disappointed with the menu/food.

Denis J. Fu MD
Councilor




I'm not sure that "Asphyxophilia and autoerotic death" (HMJ, Jan 1990) was "strange *but* interesting," but it certainly was both strange *and* interesting – fascinating, indeed! One of the fascinating things about it was the unexplained academic ranks of the two coauthors. What in the world does "fil.kand." stand for? Many readers must want to know. It does seem to me that explicit warnings to children and teenagers would greatly increase the incidence of it. It would be irresistibly attractive to many of them.

Russell Stodd's notes from *The Weathervane* are certainly worth reprinting. Wouldn't he take on a column in the HMJ, if asked?

Anyway, thanks for keeping "my baby" so healthy!

Aloha ka'ua,
Harry L. Arnold Jr MD
HMJ Editor emeritus
San Francisco

***The Editor replies:***

*According to the author, Milton Diamond, "fil.kand." is the Swedish designation for doctoral students, similar to Resident or Intern. He did not spell it out, however.*

*The Editor*



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- *Dosage for adults with active duodenal ulcer is 300 mg once nightly (150 mg b.i.d. is also available)*


*References*

1. USP DI Update, September/October 1988, p 120.
2. Br J Clin Pharmacol 1985;20:710-713.
3. Data on file, Lilly Research Laboratories.
4. Scand J Gastroenterol 1987;22(suppl 136):61-70.
5. Am J Gastroenterol 1989;84:769-774.


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**Indications and Usage:** 1. *Active duodenal ulcer*—for up to eight weeks of treatment. Most patients heal within four weeks.

2. *Maintenance therapy*—for healed duodenal ulcer patients at a reduced dosage of 150 mg h.s. The consequences of therapy with Axid for longer than one year are not known.

**Contraindication.** Known hypersensitivity to the drug. Use with caution in patients with hypersensitivity to other $H_2$-receptor antagonists.

**Precautions:** *General*—1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

2. Dosage should be reduced in patients with moderate to severe renal insufficiency.

3. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

*Laboratory Tests*—False-positive tests for urobilinogen with Multistix® may occur during therapy.

*Drug Interactions*—No interactions have been observed with theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450 enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

*Carcinogenesis, Mutagenesis, Impairment of Fertility*—A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a two-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

*Pregnancy—Teratogenic Effects—Pregnancy Category C*—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

*Nursing Mothers*—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

*Pediatric Use*—Safety and effectiveness in children have not been established.

*Use in Elderly Patients*—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

**Adverse Reactions:** Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events was due to the drug.

*Hepatic*—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to three times the upper limit of normal, however, did not significantly differ from that in placebo patients. Hepatitis and jaundice have been reported. All abnormalities were reversible after discontinuation of Axid.

*Cardiovascular*—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

*CNS*—Rare cases of reversible mental confusion have been reported.

*Endocrine*—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

*Hematologic*—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another $H_2$-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

*Integumental*—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

*Hypersensitivity*—As with other $H_2$-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Because cross-sensitivity among this class has been observed, $H_2$-receptor antagonists should not be administered to those with a history of hypersensitivity to these agents. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

*Other*—Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine have been reported.

**Overdosage:** Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance by approximately 84%.

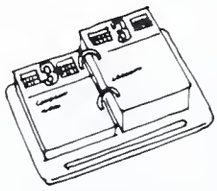
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# Continuing Medical Education

The Hawaii Medical Association does not review or evaluate the programs listed in the Hawaii Medical Journal Continuing Medical Education column and assumes no responsibility for educational value, scientific content, changes in agenda or cancellations.

## CALENDAR OF ACCREDITED EVENTS—CATEGORY 1

Accredited Programs of CME allow one unit of AMA credit for each hour of instruction excluding all "breaks." Some programs also are accredited for AAFP prescribed credit.

### LOCAL ACCREDITED PROGRAMS

### ONGOING

For a complete list of ongoing programs, please refer to the March 1990 edition of the HAWAII MEDICAL JOURNAL. Further information is available through the individual institutions or through the HMA's CME Department.

### SPECIAL EVENTS

All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the HAWAII MEDICAL JOURNAL.

**JUNE**

6/06-6/10

**7th Annual Meeting of the Southern Orthopedic Association.** Location: Hyatt Regency Hotel, Maui.

6/27-6/30

**Reproductive Endorcrinology & Fertility.** Contact: M. Becham 205-93-8494, Am Fetility Soc, 2140 11th Avenue S, Suite 200, Birmingham, AL 35205. Location: Maui.

**JULY**

7/24-7/26

**The Second Annual Queen's Cancer Institute Symposium: Gastrointestinal Malignancies '90.** Co-sponsored by the Hawaii Medical Association. Contact: Karen Taoka, Queen's Cancer Institute, 1301 Punchbowl St., Honolulu, HI 96813; 808-547-4660. Location: Hilton Hawaiian Village, Honolulu.

**AUGUST**

8/16-8/19

**Specialties & Primary Practice.** Contact: Symposium Maui, Inc., P.O. Box 833, Makawao, HI 96768, 808-878-6757 or 808-661-8032. Location: Royal Lahaina Resort, Kaanapali Beach, Maui.

**DECEMBER**

12/24-12/30

**Advances in Medicine '90.** Contact: Symposium Maui, Inc., P.O. Box 833, Makawao, HI 96768, 808-878-6757 or 808-661-8032. Location: Royal Lahaina Resort, Kaanapali Beach, Maui.


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*We have here an interesting juxtaposition; interesting in the sense that the two authors are separated by about 60 years — two generations apart.*

*Wilmot Boone, MD, has been in general practice for 50 years, with a wide experience in many parts of the world. He now practices on the "Big Island," the local name for the island of Hawaii. His treatise is soundly founded on the breadth of a long period of general practice, a practice of medicine that spans an era from digitals to verapamil. Evan Beachy is in the eighth grade at Punahou. His paper is based purely on "book larnin" — experience is totally lacking, as yet. However, the foundation is being laid, as it must be for all "students"; he has had to go to the books to learn about a topic with which he is somewhat familiar by dint of watching TV, reading current events and listening (sometimes we wonder if he does!) to grownups — parents, and particularly his wise and patient teachers to whom we extend the most kudos. The juxtapositioning is the brainchild of the HMA's Publications Committee although not quite what it wanted: The pros and cons of a controversial medical issue. What we have here is not "controversial"; both authors seem to reach the same conclusion!*

*I went easier on the editing of the teenager's paper than I did with that of the septuagenerian's, not because he is my grandson (I must confess), but because Evan must learn to stand on his own two feet in terms of his grammar and use of language, as well as his capacity to understand and to interpret what he learns.*

J.I. Frederick Reppun MD
Editor

*. . . listen to the wisdom of experience*

# Abortion I

Wilmot Burgess Boone MD*

Physicians often confront situations that horrify the uninitiated. I still recall, after half a century of practice, the two young women who were carried to the hospital for me to see. One had scholastic honors and was a cheerleader for her school team; the other was a clothes designer and model. Both had been seduced by the excessive and undisciplined ardor of their dates. Neither could accept pregnancy. Both had had "back alley" abortions, knowing full well the possibility of complications. Both died: One of severe hemmorrhage, the other of infection and unremitting fever for days.

The situation was not uncommon at all. I do not forget those two. Nor can I forget the tremendous, vital forces faced by women whose lives are altered by pregnancy, desired or not.

Since time immemorial abortion has been a hoped-for escape from such personal and social dilemmas. It still is, and will be, legal or not. Never safe until recent medical advances have been made, the procedure is nearly 100% danger-free at present. Possibly soon, it may be made easier and even less traumatic by the development of the "abortion pill," not yet available in the United States.

The ancients, knowing only too well the dangers of interrupting pregnancy in their primitive ways, enacted with religious or moral authority the Hippocratic oath, wherein the olden physician did: "Swear by Apollo the Physician, and Aesculapius and Hygeia, and Panacea, according to my ability and judgment I will keep this oath and stipulation . . . I will not give a woman a pessary to produce abortion."

* P.O. Box 666
Kealakekua, Hawaii 96750

*(Continued on page 158)*

*. . . and don't belittle our children!*

# Abortion II

Evan Beachy*

Since the 12th century BC, abortion has been a social and moral issue. Is it murder to kill an unborn child? The opinions differ greatly and the consequences of legalizing abortion become more far reaching as medical technology improves and as the consequences become more political.

In the ancient Assyrian code, (12th century BC) abortion was mentioned as an evil. The early Jews did not allow abortion except in cases where the mother's life was in danger. Only then would they allow a fetus to be sacrificed to God. In ancient Greece, abortion was favored, until Hippocrates, the first physician, formed what is now known as the Hippocratic Oath; the oath says, in part, "I will not give to a woman a pessary to cause abortion."[1] Thus, in ancient Greece, abortions were considered unethical. In Roman and Hebrew times, abortion was not allowed for the simple reason that the unborn child might be a boy, a useful member of a growing army. Survival of the tribe and society was of the utmost importance.

Roman Catholics believe that "since the soul of an individual comes into existence at the moment of conception, interruption of pregnancy at any stage compels a soul to wander the reaches of limbo eternally."[2] In contrast, Protestants and Jews believe the fetus does not acquire a soul until the 24th week of the pregnancy. In 1821, Connecticut passed the first law against abortion. The other states gradually followed. All this early history is the basis for more recent history-making events.

In the 1938 London case of Rex vs. Bourne, a 14-year-old girl was raped by several soldiers.[3] She went to

* Punahou School
Grade VIII

*(Continued on page 158)*

ABORTION I *(Continued from page 157)*

Many things have changed; scientific knowledge has brought wider and wiser horizons. No longer can we accept the ancient belief that Creation was but a matter of a few days, or such stories as the fall of Adam and Eve, or Jonah's whale episode, long accepted as unembellished truths. We know those early writers recorded tribal lore told through countless generations, changing stories as time went on.

In like vein, there is no longer the need to cherish that ancient oath: "I will not give a woman a pessary to produce abortion." Modern medicine provides, rationally, the means to avoid such tragedies as I recounted from the past. Death, or a life of suffering, need no longer be anticipated, but for many it is hard to accept the new, to cast the old aside, mesmerized as we are by superstition and seemingly irrevocable customs.

Undeniably abortion is not the appropriate solution to the problem of unwanted pregnancy. Many European countries and China do not have the high percentage of pregnancy winding up in surgical intervention as we do in the USA. Over there, education programs, for one thing, teach personal values and sexual practices that enhance personal relations. People are educated about procreation; they learn to temper desire with caution; birth control practices are taken seriously. In those countries, the tenets of life are emphasized, the responsibility in reproduction reaffirmed by dedication to the well-being of each and every offspring.

The burgeoning world population is soon to reach crisis levels, as is only too evident in Latin America, Africa and Asia. Starvation is approaching, whereas religious faiths trumpet worn-out doctrines of excessive child-bearing, as witness the teachings of the ancient Bible, Hindu and Buddhist scripts. Those people do not accept the responsibility associated with reproduction and of family life.

Too often in America, sex is a plaything, resulting in a single parent or a couple who will not, who are unable, to cope with raising their progeny. Everywhere we confront broken families, neglected, mistreated, tormented children, or juveniles who have learned nothing of discipline and decent homes.

If we cannot raise our children properly, must we have new laws to force men and women into reasonable, self-regulated sexuality?

Many years ago I saw the broken bodies of hundreds of unwanted, ill or starving babies thrown over a city wall in ancient China. Now that has changed. With better times, people want children, but that country can no longer support prodigious families.

Must we follow China's example, where families are limited as to size, and where parents must by law care for, support and stay with their children? I have witnessed both massive starvation in old China and present change wherein small families love and care for their only child. Forced abortion, forced sterilization, disciplined sexuality. Do we need to come to that, as *our* population grows?

Our vaunted freedom in America is turning into irresponsibility; excesses are becoming the norm. Soft living, drugs, overindulgence in foods, lack of exercise and sexual licentiousness, among other things, are the way of the day. We know that the highest illegitimate pregnancy rate is right here with us, in Kona.

Men and women too often fail to meet the demands of parenthood. Such answers as adoption or foster homes evade the issue. There are not enough couples who want to care for another's child. Foster parents are often a poor substitute for the love life a child needs. Despite all our wealth, we are, in a measure, failing the coming generation, but hopefully the need for a more disciplined society will not lead to the revulsive conservancy of a dictatorship.

We can thank modern medicine for excellent means of birth control, and when that fails, safe abortion. The escape by abortion for the woman who cannot tolerate, or should not be, pregnant, should take second place to rational sexual practices, proper birth control and social discipline. Only the woman herself can and should decide that which life holds acceptable to her. No government need be involved. We certainly need no oligarchy dictating moral and social performances that we owe ourselves and each other. ■

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ABORTION II *(Continued from page 157)*

Bourne, a London physician, who performed an abortion. Bourne notified the authorities of what he had done and was promptly arrested. During his trial, he convinced the jury that if there had not been an abortion, there could have been a threat to the mother's mental stability. Bourne was acquitted of all charges.

By the 1960s, the US allowed abortions only to save the life of the mother. In 1962, thalidomide, a tranquilizer, was used in Europe. Women who took the drug when pregnant, gave birth to deformed children. This created a surge of illegal abortions during that period.

In 1967, abortions were illegal in almost every country. Nevertheless, 1,200,000 illegal abortions were performed yearly. Five to ten thousand of these women died.[4] All of these abortions were successful, since the fetal mortality rate of an abortion is 100%.

By this time, there were many who wanted to make abortion legal. In January 1973, Jane Roe, an unmarried, pregnant woman, wanted an abortion in Texas. A Texas statute stated that it was illegal to procure or obtain an abortion, except to save the mother's life. Roe commenced an action in district court on behalf of herself and all other pregnant women that the statute was unconstitutional and infringing on her privacy as supported by the 1st, 4th, 9th, and 14th Amendments. Roe was denied in district court, and so she appealed to the Supreme Court. The Supreme Court voted 7-2 in favor of Roe, rejecting the statute that stated a fetus was a person.[5] They (the Supreme Court) defined a person as one with postnatal existence. The ruling stated that a pregnancy was broken into three trimesters, each trimester equaling three months. Abortion, according to the ruling, is legal in the

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first trimester, as long as it is performed by a licensed physician. In the second trimester, the state may impose restrictions concerning qualifications and licenses, as well as the facilities in which abortions may be performed. In the third trimester, the fetus is considered viable, or able to live outside the womb. In this trimester, no abortions are allowed, because the fetus is entitled to protection by the state. The only exception is when the mother's life is in danger. U.S. Supreme Court Justice Sandra O'Connor once stated: "The 1973 ruling was on a collision course with itself."[6]

Since 1973, the largest challenge to Roe was Webster vs. Reproductive Health Services[7], which many thought could lead to the reversing or weakening of the Roe case. The Webster case was based on the Preamble to the Missouri law, which states that life begins at conception. The statute also says that a fetus at every stage of develpment has all the rights, privileges and immunities available to other citizens of the state. Therefore, a fetus may sue and be sued, hold property, win the lottery and have a library card. Pregnant women who have committed a crime may go free until their child is born in order to avoid due process of lawsuits on the behalf of the child. In July 1989, a 5-4 ruling by the U.S. Supreme Court upheld the Roe decision but stated that the State of Missouri could ban the use of public hospitals and other public facilities for performing abortions not necessary to save the woman's life and public employees are barred from performing abortions or counseling women to have abortions. Roe withstood this test, but how long will it last? The ruling in the Webster case will pave the way for states to have the right to restrict the availability of abortion.

The typical woman getting an abortion is young, white, unmarried and in the first trimester of pregnancy. A 1984 Gallup Poll asked whether abortion should be banned. Fifty percent said it should be banned, while 46% said it should not. Another Gallup Poll in 1986 asked whether or not people favored the Roe vs. Wade decision. It was an even split. Ten percent were undecided, 45% in favor and 45% against.[8] The Alan Guttmacher Research Institute reported in early 1989 that one-fifth of all American women over the age of 15 have had an abortion. Eighty-one percent of those are unmarried and 62% are under 25 years of age.[9]

The question remains: Is abortion murder? The pro-choice believers feel that abortion is not murder. "There is an overwhelming majority of American people who do not think abortion is murder. The American public disapproves of murder; it would not be likely to support abortion if it thought it was murder."[10] As Gloria Allard, a Los Angeles attorney, says: "There will be a high political price to pay for being anti-choice."[11] Pro-choice advocates believe that life begins at birth, not at conception. Pro-choice groups carry the "life at conception" belief to an extreme, saying that if that was the law, a fetus would have to pay taxes and be included in per capita summaries. Some pro-choicers feel that life begins when the fetus is viable at 24 weeks. The American Medical Association (AMA) supports women's rights to abortions. Pro-choicers also want abortion legalized to eliminate the "butcher" — the illegal abortion practitioner. Another reason is to help the mother's sanity, as in Rex vs. Bourne. Yet another is to prevent the birth of congenitally deformed infants. One of the main arguments in the pro-choice campaign is that if you outlawed abortion, what would happen to the rape and incest victims, who deserve abortions?

Pro-life groups say life begins at conception, therefore a fetus is a person and when an abortion is performed, a murder is committed. A fertilized human egg is human at every stage of development. How can something become human if it is not human at conception? When pro-choice advocates mention the rape and incest victims, pro-lifers state that today there are so few rape and incest victims, that they would make no difference in the law. Besides, they say, the fetus is not guilty of anything. The parents are guilty; therefore, why impart the sentence on the innocent child instead of the parents? Some pro-life groups have a double standard, however. They approve of capital punishment and militarism but call abortion murder.

Religion also has a big role in pro-life groups. An example of this is in the Roman Catholic Church, which openly opposes abortion, nuclear weapons and capital punishment. If a woman has an abortion, she is immediately excommunicated. However, the judge who sentences a criminal to death, the executioner who throws the switch for the electric chair, and the nuclear weapons designers are still admitted members of the Church.

Some pro-life groups have gone to the extreme of bombing, kidnapping and sending warning mail to abortion clinics all over the US[12]. Pro-lifers say that if pro-choicers accept abortions, they are on the way to accepting euthanasia. Another pro-life belief is that the basic function of the law is to protect innocent life, to safeguard human dignity and the rights of each person.

I think that abortion is not morally right unless the mother's life is in danger or the mother is a victim of rape or incest. However, I do think that abortion should be legal because the right to freedom of choice is extremely important. I believe true life starts at birth. The nation should allow abortion but also allow states to make their own rules and regulations according to whether state funds will be available, when abortions can be performed and under what circumstances they can be performed.

In these times, social pressures are displacing medical and ethical indications for a legal abortion. We have to make it a matter of conscience and medical decision.

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# Interleukin-3 and anti-aging medication: A review*

Yu-Kun Chien MD**
Yu-Hong Liu MD**
Douglas G. Massey MD***

Aging is a major social problem in the world. It is the focus of gerontology research and directly related to strategic thinking on socioeconomic development. It goes without saying that, to lighten the burden on society and on the family and to ensure the economic prosperity of a nation, it is of practical significance to extend the remaining powers of the aged and to let them spend their years in happiness. Moreover, longevity not only represents a level of individual health but also reflects the environment, social factors and the level of health care in that nation.

There are many factors contributing to aging. Various theories have been postulated as accounting for it but most specialists believe that degeneration of the immune system could be the main reason for aging. This view has received support as a result of animal experiments in which we have demonstrated that a new lymphokine of the immune system, interleukin-3 (IL-3), and its decline occurs in parallel with the degeneration of the immune system.

The activity of IL-3 is very extensive. It stimulates the differentiation of the hematopoietic stem cell in bone marrow into various components and in influencing the function of diverse blood and immune cells. Once the function of IL-3 is impaired, hematologic disease, radiation sickness, allergic and immunodeficiency disease can result. This may account for the high incidence of infectious, malignant and autoimmune disease that contributes to the mortality of the elderly.

Of course, methods to prolong life will vary from person to person but investigation into maintaining the normal level of IL-3 should be given priority. Therefore, thorough study of this anti-aging agent is of great urgency.

* From the Department of Immunology
Beijing Medical University
Beijing 100083
People's Republic of China

**Professors of Immunology, BMU

***Visiting Professor at BMU in 1988
and Professor of Medicine, John A. Burns School of Medicine.
Honolulu, Hawaii: Research Department,
Kuakini Medical Center
347 N. Kuakini St., Honolulu, HI 96817
Please address communications to Dr. Massey

Fortunately, we have found experimentally that some Chinese herbs are effective for this purpose. For example, a low concentration ($10^{-2}$mg/ml) of *Ligustrum lucidum ait* (LLA) can strengthen immune function and regulate the level of IL-3. Combining LLA with other traditional Chinese herbs is worth deep study. The clinical prospect that this regulative method can influence aging is promising.

**Prospects for Interleukin 3 Research**

IL-3 is a new kind of lymphokine.[1] It is produced by an activated T-helper cell subset. Ihle found that IL-3 can induce 20-alpha hydroxysteroid dehydrogenase (20 alpha SDH) activity, a marker of mature T-cells. By detecting the activity of 20 alphaSDH, or by observing the proliferation of an IL-3-dependent cell line, one can determine the level of IL-3.

In recent years, murine IL-3 has been purified from cell culture and characterized biochemically as a glycoprotein with MW 28,000 and p14.7.[2] The 166-amino acid sequence of IL-3 was determined through its cDNA clone.[3] The murine IL-3 gene has 5 extrons and 4 introns.[4] Besides research on murine and gibbon IL-3, it also is proceeding on human IL-3.

As mentioned previously, the biological activities of IL-3 are very extensive. It is a multiple-cell, stimulating factor[5] that acts on the bone marrow hematopaietic stem cell with other cytokines to promote its differentiation concomitantly into many different blood cells: Mast cells involved in hypersensitivity, macrocytes concerned with phagocytosis and T-cells. In vitro, murine IL-3 promotes the differentiation into the natural cytotoxicity cell, which is a killer of malignant cells.

We found that the level of murine IL-3 decreased with increasing age, especially in the elderly. The mechanisms of decrease are complicated and multiple, differing from that which takes place in IL-2 and IL-6.[6,7] For example, Con-A-stimulated T-cells, LPS-stimulated B-cells, and PWM-stimulated T- and B-cells were cultured at a concentration of 2.5x10/ml. Supernatants of various aged, murine cells were added to these cells separately at 37°C; 48 hours later the regulative effect of cytokines was determined through the routine H-TdR technic. The result was that the effect on old murine cells (aged 37 months) declined markedly, compared with the effect on

the younger cells (aged 5 months). A 2nd example is the comparison of the effect on dependent cell lines of IL-3 and IL-2 from murine T-cells of different age groups. Although both showed less cytokine tendency with increasing age, the IL-3 level of the older group (37 months) declined much more than that of IL-2.

Animal experiments and cell-culture lines show the potential value of research with IL-3. Because it acts mainly on hematopoietic stem cells, we assume that human recombinant IL-3 (rIL-3) can be used to: Stimulate regeneration of bone marrow cells in aplastic anemia and radiation disease; promote hematopoiesis before or after bone marrow transplantation; activate T-helper cells to counteract the impairment caused by HIV (AIDS virus); produce anti-IL-3 monoclonal antibody in order to treat a blood disease characterized by abnormal proliferation of bone marrow; and to find new anti-aging treatment among other regulators.

At present, the study of human IL-3 is of particular interest — this is the order of the day. Yang (1986, 1987) and Delwel (1987) have purified rIL-3 separately[8,9,10]; in the last 2 years it has been sold in the USA and the UK. We expect that human IL-3 dependent and producing cell lines will appear in the near future, and it will be available for therapy. Therefore, the major thrust of IL-3 research now is to ascertain its biological activities, clinical effects and its possible application, particularly as an anti-aging medication.

### Immune Mechanism in the Aging Organism

In conjunction with the increasing number of old people in some countries, aging has become a "new" subject for study in the world today. Old age is accompanied by weakness and disease. Causative factors vary from person to person, but degeneration of the immune system is regarded as the main reason for this. From childhood on, the thymus, an immunity organ, degenerates steadily and the immune cells that it regulates, principally the T-cells and their lymphokines (especially IL-3), are progressively and adversely affected.

Also related to aging are the growth and decline of TS and TSF in the suppressor pool of the bone marrow. Deficiency in this pool occurs in patients suffering from autoimmune disease, e.g. in rheumatoid arthritis and systemic lupus erythematosus when synthesis of autoantibody type IgM-RF occurs. This same phenomenon occurs in older people, that is, a decline in bone marrow suppressors and the appearance of autoantibody type IgM. These changes in the thymus suppressor pool are related to humoral and cellular immunity, ie a decline with age in antibody production, suppression, and immune tolerance induction. This may be one of the mechanisms that explains why it is difficult to induce immune tolerance in the adult.

Lastly, it is worth noting that food can influence immune function. Feeding SJL/J mice food with a low unsaturated/saturated lipid acid ratio can induce immune tolerance. The decline in ability to resist induction of intolerance is a marker of deterioration of an aging immune system.

In summary, study of aging of the immune system, and the factors which influence it, could improve the level of protection against, and the treatment of, geriatric disease, thus prolonging life.

### The Prospect for Anti-aging Medication

In recent years, the aging mechanism has been better understood with the result that anti-aging medications are being developed more frequently, bringing new hope for prevention of early aging and geriatric diseases.[11] However, there are literally hundreds of such medications and their effects are often not just anti-aging.

Anti-aging agents can be divided into 2 types, general and specific. The former include traditional tonic medicine for deferring the aging of tissue and organs. The latter include specific purified chemicals. Our experimental results with certain Chinese herb extracts showed that, at low concentration ($< 10^{-2}$mg/ml), *Sophora flavescens ait* (SFA) and LLA had a notable stimulating effect on lymphocytes. This stimulation was amplified at higher concentration ($>10^{-2}$mg/ml) and by mitogen. For example, when SFA acted alone, rate of cell growth was 63%; when given with PWM it was 280%. When LLA acted independently, cell growth was 47%; with PWM the rate rose by 442%. By contrast, a high concentration ($>10^{-2}$ mg/ml) of SFA on PWM stimulated T- and B-cells, LPS stimulated B-cells, and Con-A stimulated T-cells all showed a suppressive effect that paralleled the increase in drug concentration. Ultimately, cells were poisoned and died. This was in striking contrast to the stengthening effect of the herbs at low concentration.

These in vitro experiments show encouraging results of some Chinese herb extracts at cytokine and cellular level. Controlled clinical studies and verification are now needed. The complicated mechanism of the effects of herbs and multiple factors influencing aging warrant a special attention.

### Conclusions

The developments in modern immunology, pharmacology and clinical practice have broad implications in the study of anti-aging agents. Preservation of youth and prolongation of a useful life are worth thorough study. Chinese herbs offer a focus for these goals. ■

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*(Continued on page 165)* ▶

# Leptospirosis: A possible cause of "aseptic meningitis"

James H. Gollop, MD, MPH*
Lorrin Pang, MD, MPH**
David M. Sasaki, DVM, MPH†

*Hawaii has the highest reported incidence of leptospirosis in the U.S.[1] Due to the rather non-specific clinical presentation of the disease, such as fever, malaise and headache, many cases are misdiagnosed as viral syndromes.*

In a review of leptospirosis cases from the United States from 1965 to 1974, meningitis was the most common initial clinical diagnosis, occurring in 26.3% of the cases.[2] A study from California, 1961-1965, revealed that 18 out of 39 cases of leptospirosis during that period were diagnosed as nervous system disease of suspected viral origin.[3] In recent years, there has been an increasing awareness of the significance of leptospiral infections in Hawaii, and there are a number of reports of leptospiral meningitis presenting with the signs and symptoms of aseptic "viral meningitis." It is estimated that 5%-13% of all sporadic cases of aseptic meningitis are caused by leptospirosis.[4] In addition to the above study from California, cases of leptospirosis presenting as aseptic meningitis have been documented in Jamaica and New Orleans.[5,6]

A recent review of the medical records on the island of Kauai shows that a significant number of patients with a discharge diagnosis of aseptic meningitis may, in fact, have had leptospirosis (Centers for Disease Control-personal communication).

For this reason, we attempted to determine the rates of leptospiral infection, using the microscopic agglutination test (MAT) in individuals with a hospital discharge diagnosis of aseptic meningitis over an 18-month period.

Records were reviewed of patients from Tripler Army Medical Center (TAMC) and The Queen's Medical Center (QMC) in Honolulu. These patients were then contacted and asked to give a sample of blood for MAT testing. Out of 70 patients discharged from TAMC during late 1987 and in 1988 with the diagnosis of aseptic meningitis, only 40 were adults. The children diagnosed with the disease often did not have documentation of disease by lumbar puncture, and were thus excluded from the study. Of the remaining 40 patients, only 14 were still residing in Hawaii. Of these, all consented to be tested. Of the patients discharged during late 1987 and in 1988 from QMC, there were 18 with the discharge diagnosis of aseptic meningitis. Of these patients, only 10 could be located. Of the 10 individuals located, samples were obtained from seven for MAT testing.

Of the 14 samples from TAMC, 1 was positive (titer $\geq$ 1:100). Of the 7 patients from QMC, 2 were positive. The overall prevalence for leptospirosis among patients diagnosed with aseptic meningitis was 14.3%. In a previous seroprevalence study by Alicata in Honolulu, the prevalence of leptospirosis using the MAT test (titer $\geq$ 1:100)) was 3.78% in a random adult population of 344 persons.[7] Using that population as a control group, the results of our study from QMC were significantly higher than expected by chance alone ($p < .025$, using binomial distribution). The results from TAMC ($p = .0818$) were not significant using 0.05 as a significance level. A better control group would require the use of a more recent serosurvey, preferably with age, sex and occupation-matched controls.

Considering that leptospirosis is difficult to diagnose, but does respond to antibiotics if administered early in the course of the illness, we recommend a prospective study of this problem. This would eliminate the need for controls, and would avoid the difficulty of retrospective reviews. In any case, leptospirosis should be considered in the differential diagnosis of patients presenting with aseptic meningitis, especially those with a history of significant occupational or recreational exposures to animals or fresh water. ■

* Preventive Medicine Resident
Epidemiology Branch
Hawaii State Department of Health

** Chief, Preventive Medicine Service
Tripler Army Medical Center

† Public Health Veterinarian
Epidemiology Branch
Hawaii State Department of Health

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*(Continued on page 165)* ▶

# MRI CASE OF THE MONTH

## TETHERED CORD WITH LIPOMA

**Clinical Information:** A 7-year-old child with soft tissue mass overlying the dorsal aspect of the lower lumbar spine and sacrum.

**Image #1**

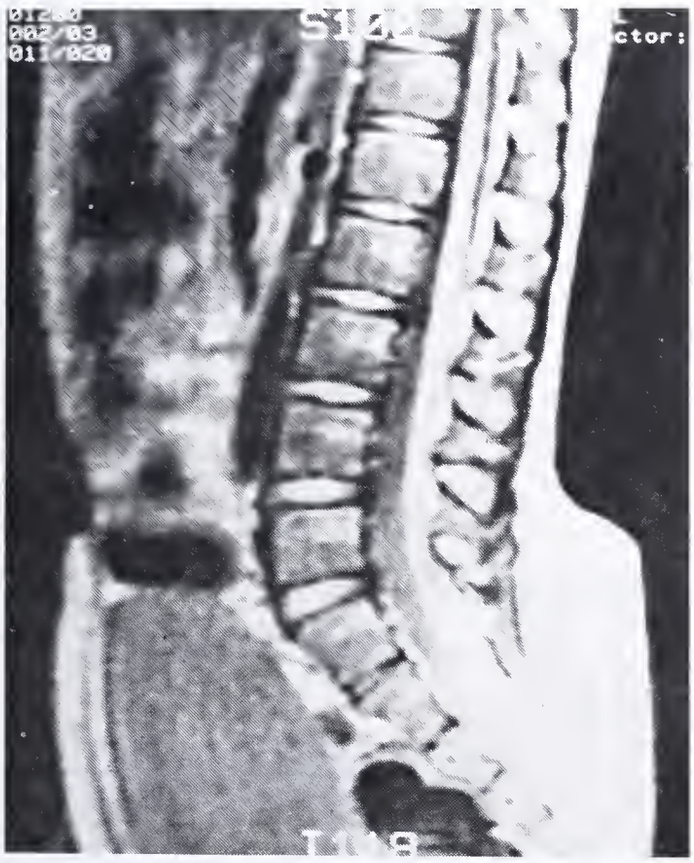


**Image # 2**




*These images were produced by MRI Center of the Pacific using their 1.5 Tesla GE Scanner.*

**Radiologic Diagnosis:** Image #1 shows a tethered cord extending down to the lower border of L5 with an associated small lipoma extending through a spina bifida defect into a larger subcutaneous lipoma. Image #2 is a normal patient for comparison, with the conus at T12 and the cauda equina extending caudally.

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## Readers Express Their Views

**When working toward the solution of a problem, it always helps if you know the answer.**

Officials of the Health Care Financing Administration HCFA expressed (feigned?) surprise about the great interest shown by opthalmologists in the proposed "Alternative Cataract Surgery Payment Demonstration." One must admire their audacity and chutzpah when considering the thesis underlying the diaphanous proposal. Ms Mary Kenesson, the project director, stated that HCFA and Congress are looking for innovative approaches to health-care reimbursement. Anyone with the IQ of a lamp shade realizes that this is a transparent attempt to force surgeons into vicious competition. Ms Kenesson claimed they "are not and will not be driven by price alone, but will address appropriateness of care and quality as well." Despite protests from the Academy, ASCRS, and other organized ophthalmology groups, HCFA remains firm in its determination to proceed. One can only wonder why other areas of organized medicine remain silent about the plan. If HCFA succeeds in forcing surgeons and hospitals into an auction for cataract and coronary bypass surgery, then why not for hernias, gall bladders, TURPS, mastectomys, etc.? A similar proposal by private enterprise would be price-fixing, restraint of trade, and collusion — when the government does it, it becomes "creative financing."

**Idealism is fine, but as it approaches reality the cost becomes prohibitive.**

How much medical care do you give away each year? According to Medical Economics, the average surgeon in America gives away $5,000 in professional courtesy — to physicians, employees, family, nurses, clerics, dentists and pharmacists. He donates $15,000/ year to charity care, and has $27,370 in uncollectible accounts. Many of the above patients have health insurance, which is often accepted as full payment for services. Dermatologists have the smallest uncollectible accounts: 2% of annual gross, whereas cardiovascular surgeons have largest: 12%. Skin docs also have the smallest charitable work: 1.4%. Overall, surgeons are giving away less, based on annual gross receipts, than they did in 1984, but their write-offs increased by $10,640 by 1989. One principal point is that 97% of physicians continue to follow the Hippocratic tenet of not billing their medical colleagues.

**Any change looks terrible at first.**

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tined over 18 months ago. Inspector General Richard P. Kursserow, the man with a really big hammer, released on OIG study based upon research at 10 Veterans Administration hospitals and 10 military hospitals, stating that IOLs are available for less than $200. These hospitals reported purchasing IOLs for as low as $95 to $185. Medicare has now ruled that reimbursement will be a flat $200 beginning 3/12/90. No statement was made about foldable lenses or surface-treated IOLs.

**There's no underestimating the intelligence of the American public.**

And sadly true, 4 out of 5 of your patients do not know if you are board certified, board eligible, or even licensed to practice medicine. They associate your quality of care with length of waiting time, friendliness of staff, and a caring attitude — at least that's what the Keckley Group market research firm claims

Russell T. Stodd MD
from *Weathervane*
Vol. 7, No.3 March 1990

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**Description:** Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon® is indicated as a sympathicolytic and mydriatic. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.[1,2] Also dizziness, headache, skin flushing reported when used orally.[1,3]

**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.[1,3,4] 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to ½ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.[3]

**How Supplied:** Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

**References:**

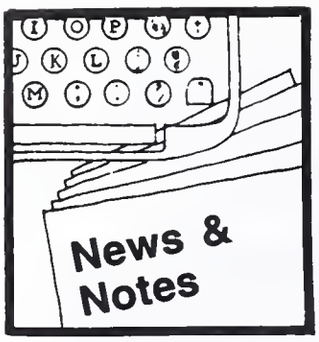
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## Conference Dialogue

When oncologist Clayton Chong spoke on chemotherapy of bladder cancer at a Queen's Friday morning conference, Dennis Meyer, in his role as former mentor, did the introductions..."It is indeed a pleasure to introduce Clayton who finished our UH Medical School...He was a 'diamond in the rough' as an intern and a terror as a medical resident...He may give me a swift kick in the butt for saying these things..." Clayton sized up Dennis' towering figure and retorted, "I can't kick that high..."

## Life in These Parts

*Transplant Registry* (Demand outstripping supply in kidney, heart and bone marrow transplants)...Livingston Wong, transplant surgeon says "For every family that says yes, four more say no." Regardless of any living will or consent form signed by the donor before death, he will not operate without the consent of the next of kin. Livingston says, "The reason may be cultural. Japanese, Chinese, Hawaiians and other ethnic groups have religious and cultural taboos against removing organs from the dead."

Young Paik, St Francis director of pathology and head of the Hawaii Bone Marrow Registry says, "The match is especially hard for bone marrow transplants. Transplants are used to enable leukemic patients to regenerate red blood cells following chemotherapy. Each person's marrow has a human leukocyte antigen (HLA) type which causes rejection of the donated marrow if the match isn't exact. The HLA varies according to race so the best chances for a match is with siblings, relatives or someone of the same ethnic background."

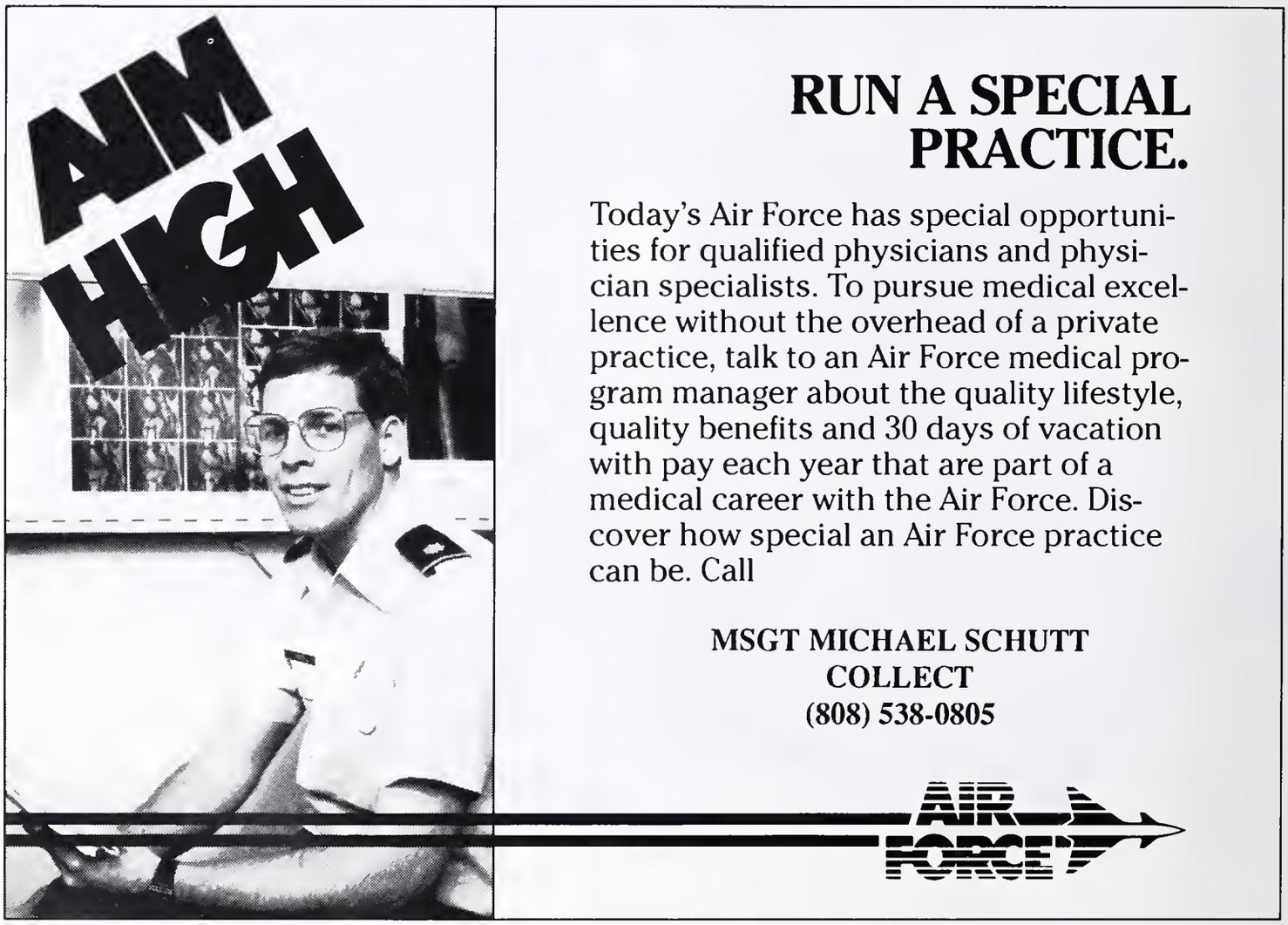
Livingston reports: About 25-30 kidneys are needed each year with the new cases of kidney failure...Close to 100 people remain on a waiting list...

About 12-15 hearts are needed for transplants per year...Only 3 are on a current waiting list because many heart patients are not strong enough to qualify as transplant candidates...

Young Paik says: About 40 leukemia patients diagnosed each year are good candidates for bone marrow transplants...Only 12 find donors among their relatives...The remaining 23 can be helped if the register can find donors in the general population...

*Leg Stretching Procedure*...Frail, soft-spoken but courageous Jong Ho Pock, 16, from South Korea became the first patient in Hawaii to undergo a leg stretching procedure developed by Soviet physician Gavrill A. Ilizarov in 1951. Orthopod Kent Reinker, Shriner's chief of staff and orthopod Morris Mitsunaga performed the surgery which corrects a congenitally short limb through an external circular stainless steel frame (with more than 200 parts) that encourages the bone, nerves and muscles to grow again. Jong arrived in Hawaii in September for the procedure, but first had to have open heart surgery to correct a heart condition discovered on pre-op exam.

*Eosinophilia-Myalgia* (linked to L- ▶





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Tryptophan)...Thirty-seven states have reported 287 cases of the L-Tryptophan related disease. In November, Eugene Pon, chief of epidemiology reported Hawaii's second case. Symptoms include severe muscle and joint pain, swelling of arms and legs, rash and fever, a high eosinophilia count and a history of L-Tryptophan use. L-Tryptophan is used for insomnia, PMS, alcohol and drug abuse and other ailments...

*Project Orbis*...Ophthalmologist Carlos Omphroy who is associated with Gerald Faulkner became the first Hawaii physician to participate in Project Orbis (a non-profit program headquartered in New York, whose global mission is to combat preventable blindness by taking physicians to other countries to lecture and work with medical colleagues from the host nation). Carlos and Stuart Bell from LSU examined 150 pre-selected patients in Taiyuan, an industrial city 300 miles southwest of Beijing, aboard a DC-8 sitting on the runway. A 35-year-old farmer from Inner Mongolia who had been functionally blind for 20 years had bilateral corneal transplants. Next day, the farmer had 20/100 vision. Carlos recalls, "He just had a huge smile on his face...He was delighted, absolutely delighted." The project's main tool is the Orbis, the oldest DC-8 still flying which has been converted into an eye hospital on wings. Since 1982, an estimated 7,000 physicians in 55 countries have watched surgery performed on board the Orbis...

## Professional Moves

On December 27, Straub announced the following new physicians: Alicia Aceredo, OB/Gyn (Mililani); Mike Maeda, general orthopedics; Rose Marie Pritts, internal medicine; Wesley Hashimoto, internal medicine (Hawaii Kai); David Mitsunaga, internal medicine (Kaneohe); Linda Waki, OB/Gyn (Financial District); Danilo Ablan, critical care medicine; Peter Baikin, diagnostic and interventional radiology.

On December 27, John Aoki announced the relocation of his practice in family practice and sports medicine to Straub Family Health Center Building at 641 Kailua Rd...

The following ad appeared on Jan 24: "Announcing a new medical discovery: He's Dr Richter, obstetrician and gynecologist. We're glad we found him and proud to have him as our newest member...Honolulu Medical Group..."

In January, nephrologists Dudley Seto, Richard Shim and Mohamed Ramadan opened their branch office at Pali Momi Medical Center, Suite 410.

In February, Robert Brown moved from New York City to join Morton Berk and Roy Nagle in Keauhou Village Shopping Center, Kailua-Kona...

On Feb 16, Hawaii Pathologists' Laboratory announced that Mary M. Flynn had joined the group which includes pathologists Ann Catts, David Goo, Hideki Namiki, Thomas Reppun, Arturo Salcedo, David Shimizu, Paul Tamura and Bani Win...

On Feb 19, W. Douglas B. Hiller joined Orthopedic Association of Hawaii, Inc which has offices at Pali Momi Medical Center; 1380 Lusitana St, Suite 608; 98-1079 Moanalua Rd and 228 Liliha St, Suite 101. Douglas does orthopedic surgery and sports medicine and specializes in foot and ankle problems...

In March, Sandra Penn announced that she was moving to the Mainland and that Susan Hayes would be available at 1055 Kalo Pl, #103.

## Hors de Combat

The federal hospital mortality report (in 14 volumes) released on Dec 20 contains death rates and predicted death rates for Medicare patients at each of the nearly 6,000 hospitals. It calculates the rates for all causes of Medicare deaths as well as for each of 16 diagnostic categories...More than 3% of the nation's hospitals had higher than expected death rates for Medicare patients and 32 hospitals (including 6 in Puerto Rico) had excess rates 3 years in a row. The death rates at 20 Hawaii hospitals fell within the predicted mortality for the 3rd consecutive year. In 1989, 196 hospitals or 3.4% had higher than expected death rates as compared to 194 hospitals in 1987 and 187 in 1986...

## Physicians Speak Up

In a letter to the editor, plastic surgeon and poet laureate Bob Flowers was critical of the Catholic Church's action when San Diego Bishop Lee Maher banned Assemblyperson Lucy Killea from receiving communion for her stand on the rights of a woman to elect abortion..."The decades of progress made by the electorate in general and Catholic politicians in particular (especially President John Kennedy) was largely undone...It is easy to remember the days when there was great apprehension among the non-Catholic population toward electing a Roman Catholic to high public office..."A church which teaches, exhorts and takes a stand on ethical issues deserves our respect. One which attempts to impose the view of its clergy by fear and retribution on elected officials does itself and its communicants great harm and sets back by eons the cause of separation of church and state."

Malcolm Ing, eye man, writes: "What is not so widely known is that cigarette smoking has been found to be a risk factor in the development of a certain common type of cataract. A recent study by investigators at Johns Hopkins revealed that nuclear cataracts are more common in persons who smoked and the damage was dose related... Therefore, medical researchers can now say that in addition to helping your heart and lungs, you can help save your eyesight by not smoking..."

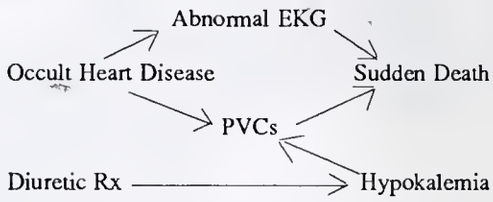
## Conference Notes

*New Developments in Nitrate Therapy* (Lecture by visiting professor David Kawanishi from New York Medical Center, Sep 9 1989):

- "When you don't know where you're going, you never get lost." Yogi Berra
- Exercise has vasoconstricting effect on stenotic coronaries which can be reversed with NTG (ie even stenotic areas can be dilated by NTG...contrary to previous concept that stenotic coronaries are fixed...)
- Majority of ambulatory ischemia are silent–per Holter monitoring...
- Long acting nitrates reduce ischemia in ambulatory setting...

* * *

*Treatment of Hypertension: Individualized Therapy and Monotherapy* (Lecture by visiting professor James Schwangerger, Oct 27 1989): "I come to bury stepped care, not to praise it." There should be a 60% decline in strokes and heart attacks with successful therapy of hypertension...But the 1988 version of stepped care (ie diuretics or B blockers or Ca channel blockers or ACE as 1st step) is very inadequate...We have to treat mild hypertension for longer periods before making conclusions...Adherence or compliance is the biggest problem...one-third of the patients dropped out because quality of life is so important and this quality of life is worsened by diuretics...In MRFIT Trials, after 5 years no significant improvement with stepped care using HCT 50–100mg/d...Large dose diuretics with EKG abnormalities can be dangerous, ie cause sudden death.




- Cholesterol role: 1% reduction in cholesterol produces a 2% reduction in mortality...

| | Diuretics | B Blockers | Central Acting Agents |
|---|---|---|---|
| TC | ↑ | ← → | ← → |
| LDL | ↑ | ← → ↑ | ↓ |
| HDL | ← → ↓ | ↓ | ↓ |
| TG | ↑ | ↑ | ↑ |

- Diuretics cause a 5-8% rise in cholesterol which means a 10-16% rise in mortality...
- No question that antihypertensive therapy reduces strokes by 40%, but stepped care shows no significant benefit in preventing MIs...
- The dilemma: Severe hypertension–dramatic benefit with therapy...But with mild hypertension (90-94) (85-90), the side effects of therapy are greater than the benefits...

| | | | | | | |
|---|---|---|---|---|---|---|
| Young | ↑MAP | = | CO | x | | TPR |
| Middle Age | ↑MAP | = | CO | x | ↓ | TPR |
| Elderly | ↑MAP | = | ↓CO | x | ↑↑ | TPR |

- Elderly hypertensives have lower plasma renin..."Good response to Calcium blockers when renin level is low, but less response to Beta blockers. Therefore, use Calcium blockers and diuretics in elderly.
- Calcium blockers and ACE are most effective–my preference
- Role of diuretics–use small doses and as 2nd step

| Disorder | α Blockers | ACE | Beta Blockers | Calcium Blockers | Diuretics |
|---|---|---|---|---|---|
| Hyperlipidemia | 0 | 0 | ↑ | 0 | ↑ |
| Diabetes | 0 | Improve | May ↑ | May ↑ | ↑ |
| Hypokalemia | 0 | May Cause | 0 | 0 | ↑ |
| Hyperuricemia | 0 | 0 | 0 | 0 | ↑ |
| Angina | 0 | ↑ | ↓ | ↓ | 0 |
| CHF | ±↑ | ↑ | Worsens | ±↓ | ↓ |
| Arrhythmia | 0 | 0 | ± | ↓ | ↑ |
| COPD | 0 | 0 | ↑ | ↓ | 0 |

## Hors de Combat

*Physician Bashing:* (Excerpts from an article entitled "Are Doctors Really Good for What Ails You?" by Robert S. Boyd, columnist for Knight Ridder Newspapers and appearing in the Advertiser Health/Science page on Feb 18, 1990.)

Columnist Robert Boyd has a field day with a statement by Robert M. Center (chairman of the division of general medicine and primary care at the Medical College of Virginia) who modestly confessed to a congressional hearing in June 1989 that when a patient comes to see him with a complaint, such as a sore throat or an aching back, he lacks the tools he needs to make a sound decision because medical science cannot tell him what kind of treatment works best for many common ailments..."In order for me to make a good judgment, I need to have some data and right now, I don't have enough data to make that decision."

The columnist wrongly interprets the testimony as reflecting "the crisis in confidence that is just now being widely acknowledged in the medical profession." He continues: "Near the end of a century of extraordinary medical progress and generally improving health, doctors still don't know what works...That's important for everybody, sick or well...Experts figure at least 20% of the nation's health bill–$125 billion last year, more than enough to wipe out the yearly federal budget deficit–is wasted on unnecessary, inappropriate or downright dangerous treatments because of lack of knowledge about what works...Meanwhile, doctors and surgeons continue to be plagued by doubts and disagreements about the accuracy of medical tests and diagnoses, about the value and safety of new machines and procedures–about when, where, and how to cut, bore, slice the human body..."

(Ed: All this physician bashing lends to patient mistrust...Recently we saw a 29-year-old woman on a Saturday morning at 11 AM...She had developed a generalized abdominal pain at 3 AM, vomited twice and felt a little better. She had a low grade temperature and a definite rebound tenderness in the RLQ...We called a general surgeon who met her at the ER and after carefully examining her, agreed that she had acute appendicitis...But she balked at the suggestion that she needed surgery...She wanted further diagnostic tests and a second opinion...The surgeon patiently complied and had ultrasound and CT scans done...Another surgeon called in for consult also agreed...Five hours or more later when she finally went to surgery, the appendix had perforated and she had to spend an extra week in the hospital...)

## Sportsmen

*Golfers:* The annual Accupath Tournament was held on March 15, Thursday afternoon at the Hawaii Kai Golf Course with a 1 PM shotgun start...The tournament was a test of each golfer's raw courage, coolness and inner strength for the course was awash with near gale winds and the greens were fast like concrete...The tournament chairman decided that the net score would exclude the worst hole score...Unfortunately, many of us had too many worst holes...The MD winners were as follows: Roy Niimi with net 60 was 1st; Neil Shibuya with net 64 was 8th; Tad Iwanuma, Herman Mercado and Tom Kobara with net 65s were tied at 9th place; Eliot Tomomitsu, Chew Mung Lum, Francis Soon were tied at 13th place with net 66s; Robert Palmer, Steven Lum, Ray Wong and Dennis Murakami were tied at 18th place with net


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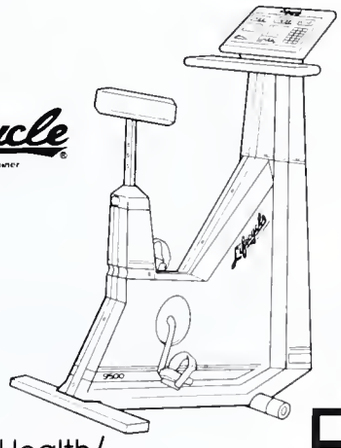
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## NEWS AND NOTES

*(Continued from page 169)*

67s and Albert Tamae, George Shimomura, Herbert Nam and Gordon Chang tied at 23rd place with net 68s...Closest to the pin on the 10th hole was Derek Pang and on the 5th hole was H. Yokoyama...

*Runners* (carbo-loading and pre-marathon nutrition): Marathon guru Jack Scaff says, "Studies show that carbo-depleting through diet is not necessary for high performance...People who train for long distance races are already chronically depleted of carbohydrates. Two things are important in long distance running–first, you want to make sure that the muscles are rested by tapering off your activity prior to the race...Then you want to trick the muscles into taking up carbohydrates by eating a carbohydrate-rich diet for 72 hours before the race. The muscles should take up about 25% more carbohydrate than usual." (From "Good For You" by Barbara Burke, columnist.)

### Honored, Appointed & Elected

General surgeon Clifford Chang will be the first chief of staff of the St Francis Medical Center-West, the new medical complex in Ewa Beach...Clifford is finishing a 2-year term as chief of staff at St Francis and will be succeeded by surgeon Nathaniel Ching. Other members of the St Francis Medical Center-West executive board are orthopod Antonio Cordero, VP; internist Laverne Kia, secretary; pediatrician Amelia Jacang, treasurer...

*"10 Who Made A Difference" (in our lives in 1989):* The Star-Bulletin chose Livingston Wong as one of the 10 from 100 nominations...Livingston is described as "A patient-oriented, private, workaholic doctor who pioneered liver transplants here 20 years ago..." Young Paik: "He's all work and no play...Not only a superb technician, but pro-patient and a very private man with a subtle sense of humor for his colleagues...Carlos Moreno: "He is one of the best surgeons in town. But one of the most basic things is his honesty and rapport with patients, the amount of time he commits to patient care..."

Cardiac surgeon Richard Mamiya was newly appointed to the Punahou School Board of Trustees for a 2-year term. Dick and Hazel had 8 children attend Punahou and a daughter, Richelle, is a faculty member...

Lee Evslin was named new president of the Kauai Medical Group Board of Directors. Lee was medical director of Island Care, an HMO formed by KMG which is now managed by Queen's Medical Center. Outgoing president Clarence Funaki was president for 7-1/2 years and during his tenure, the 48-member group completed a 48,000 sq ft clinic building next to Wilcox Hospital and started satellite clinics in 5 locations from Princeville to Koloa...

### Miscellany

Topic for poetry contest: "Timbuktu." Two contrasting entries...

Harvard man:
Hot hot sands
Covering desert lands
Serpentine caravans
Coming into view
The destination...
TIMBUKTU...

Local man:
Me and Tim
We went hunting...
Spok three gals
In one tent...

They was three
We was two
I buck one
Tim buck two...
(From Jill Kawasaki's repertoire)

* * *

The blind man with a seeing eye dog came to a busy intersection...The light turned red...The dog started across with oncoming traffic. The air was filled with curses and screeching brakes...The blind man miraculously crossed safely...He reached in his pocket and pulled out a cookie for his dog...A bystander wondered: "You nearly got killed out there, yet you are rewarding your dog?" Blind man: "I'm trying to figure out where his mouth is so I can kick his ass!"

(Contribution by Clay Benham, tennis pro)

## Conference Notes

*Changing Attitudes for Initial Medical Therapy for Mild to Moderate Hypertension: A Cardiologist's Point of View* (Lecture by visiting professor John Schroeder, Stanford University, Dec 8 1989):

- "It's amazing how little Beta blockers I use."
- Risk of death correlates with diastolic BP in men...
- Many feel we need to get diastole <90 to reduce mortality...
- Stepped care is no longer valid...
- Quality of life issues: "It's hard to make an asymptomatic patient feel better."
- British survey of physician, patient and patient's spouse re therapy:

| | | |
|---|---|---|
| MD | = | 100% improved |
| Patient | = | Only 50 % improved |
| Spouse | = | 100% worse (ie fatigue, sexual dysfunction, "doesn't listen to me") |

- MRFIT Trial (12,000 men ages 35-57): 7-year follow up.

LVH on EKG (special intervention)➡⬆ arrhythmias (2° to hypokalemia)➡ sudden death
Plasma lipids⬆ with diuretic and Beta blockers (ie ⬆TG and ⬆LDL)...
Alpha blockers, Calcium blockers and ACE have no effect on lipids...

- Captopril: Use in all degrees of hypertension; fewer adverse effects compared to Beta blockers; can be combined with diuretics...
- 50% of hypertensives have concomitant disease, ie coronary disease, diabetes, hyperlipidemia, renal disease, COPD, etc...
- Treatment of mild to moderate hypertension: Calcium blockers ➡⬆vasodilation or ⬇vasoconstriction

Diltiazem, Verapamil, Nifetipine: All equal in efficacy and same potency as diuretics...They decrease peripheral resistance, increase Na excretion and do not increase sympathetic tone...

- Which Calcium blocker to use:

Diltiazem has the least side effects <5%
Nifetipine: 20-30% side effects
Verapamil is in between (AV block and constipation)

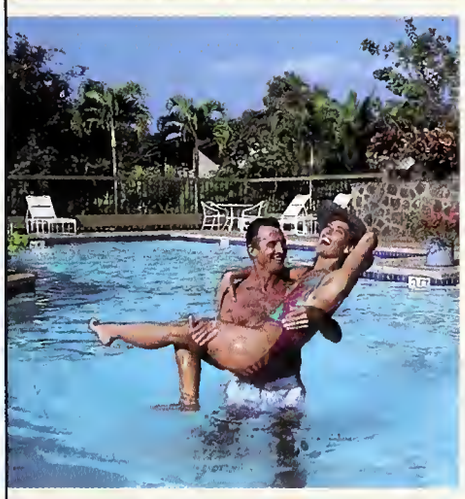
- Older patients with coronary disease: Calcium blockers are cardioprotective and safer to use.
- "I start with Cardizem 90 SR or 30mg tid and add Nifetipine if necessary...I never use Nifetipine as initial or monotherapy..." ■


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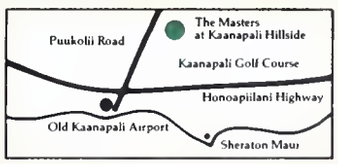






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# ABA endorses Uniform Act on health-care decision-making by proxy

At its midyear meeting in Los Angeles, California, February 7-14, the American Bar Association's House of Delegates endorsed the Revision of the Uniform Rights of the Terminally Ill Act [URTIA (1989)].

The Revised Act, completed and approved by the Uniform Law Commissioners (ULC) at its 1989 Annual Meeting in Hawaii, includes optional language that authorizes withdrawal of life-support by a surrogate decision maker. It was presented to the ABA for its endorsement, as is customary for uniform acts, which the ULC promulgates.

The purpose of the original act, which was completed by the ULC in 1985 and subsequently adopted in seven states, is to allow a competent adult to execute a declaration specifying the withholding of life-sustaining medical treatment. This declaration (popularly known as a "living will") would become operative only when a patient reaches the last stages of a terminal condition and is no longer capable of making decisions about his or her medical care. The 1985 Act does not allow health-care decisions by proxy.

URTIA (1989) adds the appointment of a proxy or a surrogate as an alternative to the living will provisions of this Act. The revision also authorizes a patient's close relatives to consent to withdrawal of treatment in the absence of any document, so long as such consent does not conflict with known and expressed intentions of the patient.

The only treatment decisions affected by the revision are those regarding the withholding or withdrawal of life-sustaining treatment for persons in a terminal condition who are not longer able to make such decisions.

The ULC, now in its 99th year, is composed of more than 300 state-appointed judges, law professors and practicing lawyers in the public and private sector who draft uniform and model state laws and work toward their enactment in the state Legislatures.




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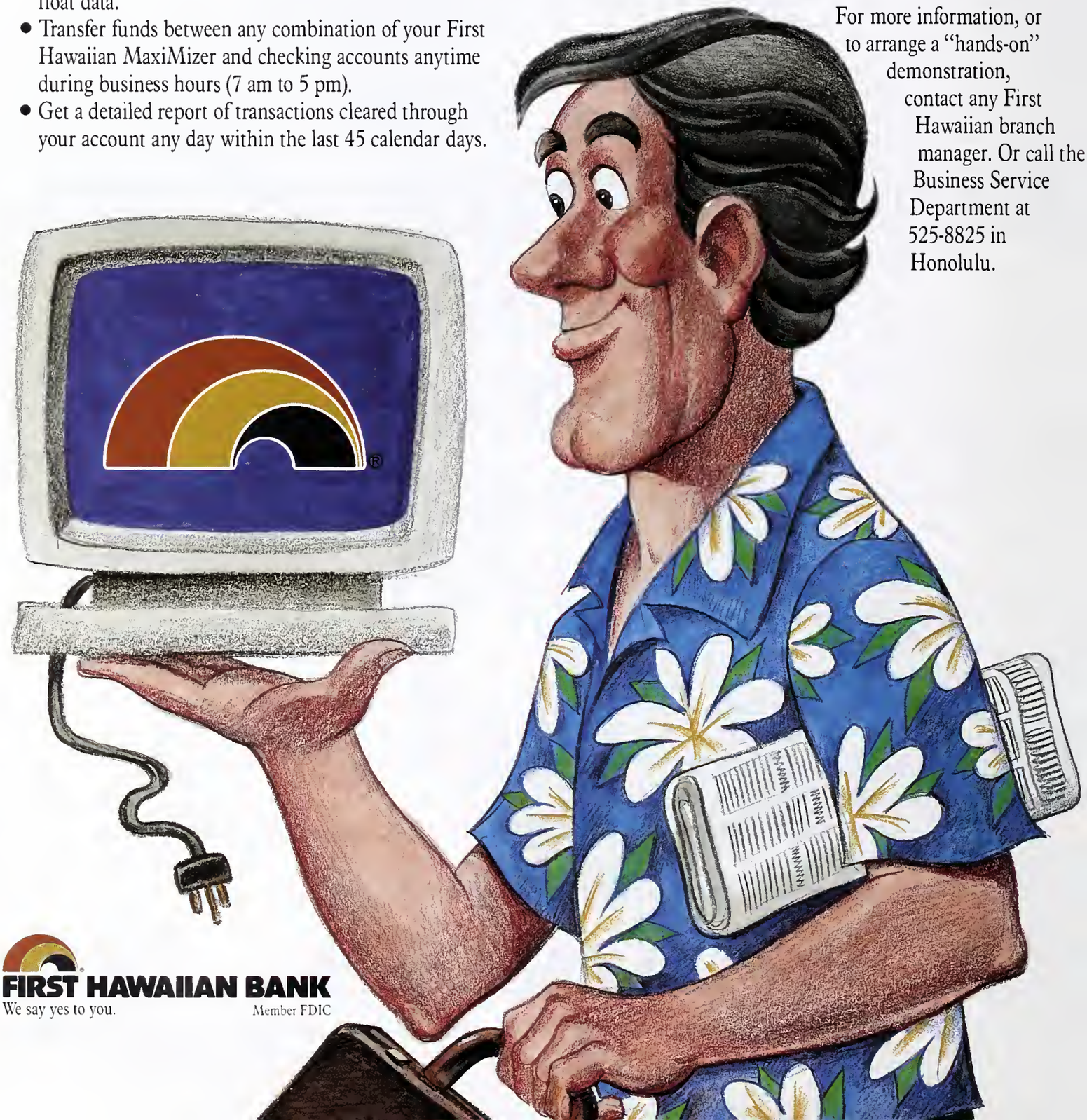
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# HAWAII MEDICAL JOURNAL

## CONTENTS

**EDITORIALS** 181
**The Right of Privacy**
**Cancer of the Prostate**
**A Piece of My Mind, JAMA 12 Jan**
J.I. Frederick Reppun, MD

**CONTINUING MEDICAL EDUCATION** 183

**HAWAIIAN NAMES FOR DOCTORS** 183

**RADIATION THERAPY FOR CARCINOMA OF THE PROSTATE GLAND: EXPERIENCE AT A COMMUNITY HOSPITAL** 185
Carl W. Boyer Jr MD
Vincent C. Brown MD
Paul A. DeMare MD
Thanh V. Huynh MD
Charles Y. Yamashiro MD

**HIGHLIGHTS OF THE HMA COUNCIL MEETING** 195
**May 4, 1990**

**THE HAWAII STATE DEPARTMENT OF CORRECTIONS SUBSTANCE ABUSE STRATEGY** 196
Henry Ichiho MD MPH
Gerard DeLisio PhD
Theodore Sakai MBA
Sandra Moritsugu MSW, MPH

**EOSINOPHILIC PLEURAL EFFUSIONS** 206
Matthew S. Lau MD
Francis D. Pien MD

**READERS EXPRESS THEIR VIEWS** 208
**In the Throes of Urgency Recurring**
Jim Patterson Sr

**USE OF ERYTHROPOIETIN IN JEHOVAH'S WITNESS PATIENTS** 209
Robert T. S. Jim MD

**NEWS AND NOTES** 210
Henry Yokoyama MD

**MAKA O KA KAUKA** 215
Russell T. Stodd, MD

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VASOTEC is available in 2.5-mg, 5-mg, 10-mg, and 20-mg tablet strengths.

**Contraindications:** VASOTEC® (Enalapril Maleate, MSD) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

**Warnings:** *Angioedema.* Angioedema of the face, extremities, lips, tongue, glottis, and/or larynx has been reported in patients treated with ACE inhibitors, including VASOTEC. In such cases, VASOTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been confined to the face and lips, the condition has generally resolved without treatment, although antihistamines have been useful in relieving symptoms. Angioedema associated with laryngeal edema may be fatal. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mL to 0.5 mL), should be promptly administered.** (See ADVERSE REACTIONS.)

*Hypotension:* Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Patients with heart failure given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed, caution should be observed when initiating therapy. (See DOSAGE AND ADMINISTRATION.) Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion of any etiology. It may be advisable to eliminate the diuretic (except in patients with heart failure), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIONS, *Drug Interactions* and ADVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the first two weeks of treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident. If excessive hypotension occurs, the patient should be placed in the supine position and, if necessary, receive an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further doses of VASOTEC, which usually can be given without difficulty once the blood pressure has stabilized. If symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant diuretic may be necessary.

*Neutropenia/Agranulocytosis:* Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

**Precautions:** *General. Impaired Renal Function.* As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

**Evaluation of patients with hypertension or heart failure should always include assessment of renal function.** (See DOSAGE AND ADMINISTRATION.)

*Hyperkalemia.* Elevated serum potassium (>5.7 mEq/L) was observed in approximately 1% of hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with VASOTEC. (See *Drug Interactions.*)

*Surgery/Anesthesia:* In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

*Information for Patients.*

*Angioedema.* Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

*Hypotension.* Patients should be cautioned to report lightheadedness, especially during the first few days of therapy. If actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

*Hyperkalemia:* Patients should be told not to use salt substitutes containing potassium without consulting their physician.

*Neutropenia.* Patients should be told to report promptly any indication of infection (e.g., sore throat, fever) which may be a sign of neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

*Drug Interactions:*

*Hypotension. Patients on Diuretic Therapy.* Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and DOSAGE AND ADMINISTRATION.)

*Agents Causing Renin Release.* The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

*Other Cardiovascular Agents.* VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyldopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence of clinically significant adverse interactions.

*Agents Increasing Serum Potassium.* VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

*Lithium.* Lithium toxicity has been reported in patients receiving lithium concomitantly with drugs which cause elimination of sodium, including ACE inhibitors. A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation of both drugs. It is recommended that serum lithium levels be monitored frequently if enalapril is administered concomitantly with lithium.

*Pregnancy – Category C:* There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enalaprit to pregnant hamsters.

There are no adequate and well-controlled studies of enalaprit in pregnant women. However, data are available that show enalapril crosses the human placenta. Because the risk of fetal toxicity with the use of ACE inhibitors has not been clearly defined, VASOTEC® (Enalapril Maleate, MSO) should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Postmarketing experience with all ACE inhibitors thus far suggests the following with regard to pregnancy outcome. Inadvertent exposure limited to the first trimester of pregnancy has not been reported to affect fetal outcome adversely. Fetal exposure during the second and third trimesters of pregnancy has been associated with fetal and neonatal morbidity and mortality.

When ACE inhibitors are used during the later stages of pregnancy, there have been reports of hypotension and decreased renal perfusion in the newborn. Oligohydramnios in the mother has also been reported, presumably representing decreased renal function in the fetus. Infants exposed *in utero* to ACE inhibitors should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support of blood pressure and renal perfusion with the administration of fluids and pressors as appropriate. Problems associated with prematurity such as patent ductus arteriosus have occurred in association with maternal use of ACE inhibitors, but it is not clear whether they are related to ACE inhibition, maternal hypertension, or the underlying prematurity.

*Nursing Mothers.* Milk in lactating rats contains radioactivity following administration of $^{14}C$ enalapril maleate. It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be exercised when VASOTEC is given to a nursing mother.

*Pediatric Use:* Safety and effectiveness in children have not been established.

**Adverse Reactions:** VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 2987 patients.

*HYPERTENSION:* The most frequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were: diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

*HEART FAILURE:* The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial infarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each category:

*Cardiovascular:* Cardiac arrest, myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*); pulmonary embolism and infarction; pulmonary edema, rhythm disturbances, atrial fibrillation; palpitation.

*Digestive:* Ileus, pancreatitis, hepatitis (hepatocellular or cholestatic jaundice), melena, anorexia, dyspepsia, constipation, glossitis, stomatitis, dry mouth.

*Musculoskeletal:* Muscle cramps.

*Nervous/Psychiatric:* Depression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

*Urogenital:* Renal failure, oliguria, renal dysfunction (see PRECAUTIONS and DOSAGE AND ADMINISTRATION).

*Respiratory:* Bronchospasm, rhinorrhea, sore throat and hoarseness, asthma, upper respiratory infection.

*Skin.* Exfoliative dermatitis, toxic epidermal necrolysis, Stevens-Johnson syndrome, herpes zoster, erythema multiforme, urticaria, pruritus, alopecia, flushing, hyperhidrosis.

*Special Senses:* Blurred vision, taste alteration, anosmia, tinnitus, conjunctivitis, dry eyes, tearing.

A symptom complex has been reported which may include a positive ANA, an elevated erythrocyte sedimentation rate, arthralgias/arthritis, myalgias, fever, serositis, vasculitis, leukocytosis, eosinophilia, photosensitivity, rash, and other dermatologic manifestations.

*Angioedema:* Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

*Hypotension:* In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause for discontinuation of therapy in 1.9% of patients with heart failure. (See WARNINGS.)

*Clinical Laboratory Test Findings.*

*Serum Electrolytes.* Hyperkalemia (see PRECAUTIONS), hyponatremia.

*Creatinine, Blood Urea Nitrogen.* In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation of VASOTEC and/or other concomitant diuretic therapy, were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients.

*Hemoglobin and Hematocrit.* Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g% and 1.0 vol %, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% of patients discontinued therapy due to anemia.

*Other (Causal Relationship Unknown):* In marketing experience, rare cases of neutropenia, thrombocytopenia, and bone marrow depression have been reported. A few cases of hemolysis have been reported in patients with G6PD deficiency.

*Liver Function Tests.* Elevations of liver enzymes and/or serum bilirubin have occurred.

**Dosage and Administration:** *Hypertension:* In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, if possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) If the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed.

If the diuretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*)

The recommended initial dose in patients not on diuretics is 5 mg once a day. Dosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses. In some patients treated once daily, the antihypertensive effect may diminish toward the end of the dosing interval. In such patients, an increase in dosage or twice-daily administration should be considered. If blood pressure is not controlled with VASOTEC alone, a diuretic may be added.

Concomitant administration of VASOTEC with potassium supplements, potassium salt substitutes, or potassium-sparing diuretics may lead to increases of serum potassium (see PRECAUTIONS).

*Dosage Adjustment in Hypertensive Patients with Renal Impairment.* The usual dose of enalapril is recommended for patients with a creatinine clearance > 30 mL/min (serum creatinine of up to approximately 3 mg/dL). For patients with creatinine clearance ≤ 30 mL/min (serum creatinine ≥ 3 mg/dL), the first dose is 2.5 mg once daily. The dosage may be titrated upward until blood pressure is controlled or to a maximum of 40 mg daily.

*Heart Failure:* VASOTEC is indicated as adjunctive therapy with diuretics and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose of VASOTEC, the patient should be observed under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*) If possible, the dose of the diuretic should be reduced, which may diminish the likelihood of hypotension. The appearance of hypotension after the initial dose of VASOTEC does not preclude subsequent careful dose titration with the drug, following effective management of the hypotension. The usual therapeutic dosing range for the treatment of heart failure is 5 to 20 mg daily given in two divided doses. The maximum daily dose is 40 mg. Once-daily dosing has been effective in a controlled study, but nearly all patients in this study were given 40 mg, the maximum recommended daily dose, and there has been much more experience with twice-daily dosing. In addition, in a placebo-controlled study which demonstrated reduced mortality in patients with severe heart failure (NYHA Class IV), patients were treated with 2.5 to 40 mg per day of VASOTEC, almost always administered in two divided doses. (See CLINICAL PHARMACOLOGY, *Pharmacodynamics and Clinical Effects.*) Dosage may be adjusted depending upon clinical or hemodynamic response. (See WARNINGS.)

*Dosage Adjustment in Patients with Heart Failure and Renal Impairment or Hyponatremia.* In patients with heart failure who have hyponatremia (serum sodium < 130 mEq/L) or with serum creatinine >1.6 mg/dL, therapy should be initiated at 2.5 mg daily under close medical supervision. (See DOSAGE AND ADMINISTRATION, *Heart Failure*, WARNINGS, and PRECAUTIONS, *Drug Interactions.*) The dose may be increased to 2.5 mg b.i.d., then 5 mg b.i.d. and higher as needed, usually at intervals of four days or more, if at the time of dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

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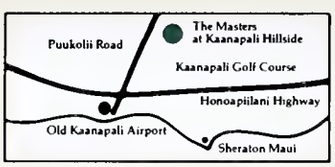
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# The right of privacy

*JAMA* of 9 February 1990, under the caption of **Law and Medicine,** pp 858 to 861, has an article by three authors, all with JD degrees and two of them with MPH degrees as well. Their locus is the Boston University Schools of Medicine and Public Health. The thesis of Anna GJ, Glantz LH and Mariner WK is entitled **The Right of Privacy Protects the Doctor-Patient Relationship.** It is an important document that every physician should read and store in his disk drive, ready for retrieval at a moment's notice.

The article poses the important concept that *Roe v Wade* did more than address the subject of abortion. We quote:

> "The Supreme Court's decision in *Roe v Wade* is best known for its conclusion that the constitutional right of privacy protects from state interference a woman's decision whether to terminate a pregnancy . . . Yet, a central focus of *Roe* is the nature of the doctor-patient relationship and the degree of protection that the doctor-patient relationship deserves from state interference . . . *Roe* . . . recognize(s) that the interests of the doctor and patient are usually the same and that the state should seldom be permitted to interfere with their joint decisions to perform standard medical procedures."

The article then goes on to prove what it contends in the above early paragraph. The arguments are cogent and the conclusion credible. We quote from the latter:

> "*Roe v Wade* has correctly been seen primarily as a women's rights case because it protects women's right to decide whether to continue a pregnancy. But *Roe* is also a physicians' right case, because the right of privacy that protects a woman's right to decide is the only constitutional principle the Supreme Court has recognized that protects a physician's right to exercise medical judgment . . . But *Roe* does not advocate abortion . . . No one is required either to have an abortion or to perform one . . . Those who seek to overrule *Roe* are fundamentally arguing for state control of what can and cannot be done and said by physicians. And they would prefer to control physicians not indirectly, by financial incentives, but directly, with criminal penalties . . .
>
> Physicians and patients have a unity of interest in defending and promoting the right of privacy that protects decision making in the doctor-patient relationship from irruptive interference by the state."

We like that. We also see an opening, in the constitutional right of privacy, to preserving the confidentiality of a physician's office medical record of the communication between patient and doctor. After all, they are his notes to himself!

J.I. Frederick Reppun MD
Editor

# Cancer of the prostate

Carl Boyer et al at Queen's have done us a service here in Hawaii with the retrospective study of prostate cancer that was treated with radiation therapy over an 18-year period (their article is in this issue of the *Journal*). This form of therapy, they say, has increased sixfold at QMC, as compared with about half that rate nationwide.

This speaks well for the radiotherapy department and the radiotherapists that we have in our community; the outcome of such therapy is comparable to that in the rest of the country.

It is of interest to note that the likelihood of survival is about the same when compared with other treatment modalities. The question remains whether the morbidity is better or worse. A radical dissection, including the pelvic lymph nodes, is pretty rough on the patient, but the long-term effects of radiation therapy can also be considerable. This particular comparison was not addressed in depth by these authors.

For the primary physician, the big problem still is in diagnosis. The traditional acid phosphatase test has never been very worthwhile in helping the physician to decide that what his educated finger feels on a rectal digital exam may or may not be a cancer, from a single nodule, to an overall nodularity or asymmetry, to a smooth but definitely hard hypertrophy. The newer PSA (Prostatic Specific Antigen) is more helpful as a test for progression, if any. Needle biopsies can miss the nidus. The worst of the diagnostic dilemma is that some men's prostate cancers are virulent (as it must have been in the case of our well-liked and eminent Senator Sparky Matsunaga, who succumbed to the disease recently), whereas a

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large number of other men with prostatic cancer are diagnosed on post mortem examination only, after they have died of other ailments.

The QMC study also makes us wonder whether a TURP angers the latent malignancy and makes it virulent!

J.I. Frederick Reppun, MD
Editor

# A piece of my mind
# *JAMA* 12 Jan

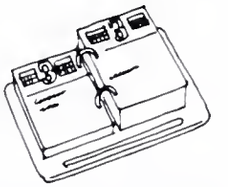
It isn't often that an author from Hawaii gets into the pages of *JAMA*. David Elpern, Kauai dermatologist, got a very sensitive vignette of practice into "A Piece of my Mind" in *JAMA* a year or so ago. This time it is Walter Quisenberry's wife, Evelyn, who did.

The title of her "Piece" was: "What Are We Going to do About Mother?" Evelyn must have entitled it herself, we think, with tongue in cheek, because the central character is Father — a pleasant, affable, mild-mannered, obviously elderly man by the name of Charles, who, also obviously, must be beginning the Alzheimer downhill road to perdition. He is the narrator in the first person, not understanding the "strange" behavior of Martha (his wife?), presumably the "Mother," who is exasperated unto tears by his behavior that he thinks is normal.

J.I. Frederick MD
Editor

## Hawaiian Names for Doctors

| | |
|---|---|
| Orthopedist | Kahuna ha'iha'i iwi |
| Dermatologist | Kauka 'ola ili |
| Neurologist | Kauka a'alolo |
| Ophthalmologist | Kauka maka |
| Anesthesiologist | Kauka a'ole 'eha |
| Gastroentrologist | Kauka na 'au |
| Rheumatologist | Kauka ku'eku'e |
| Hematologist | Kauka koko |
| Proctologist | Kauka okole |
| Patholigist | Kauka pukapuka |
| Radiologist | Kauka nānā i loko o ke kino |
| Psychiatrist | Kauka mai ma loko |
| GP or FP | Kahuna lapa'au |
| Surgeon | Kauka kaha |
| OB | Kahuna ho'ohanau |
| Internist | Kahuna iki hāhā |
| Osteopath | Kauka lomilomi |
| Cardiologist | Kauka puu wai |
| Urologist | Kauka puupaa kaha |
| ENT | Kauka pepeiao |
| Pulmonary Medicine | Kauka akemāmā |
| Student Health | Kauka o'na haumāna |
| Physician's Assistant | Kauka kōkua |
| Allergist | Kauka pipi ka ihu |
| Pediatrician | Kauka o keiki |
| Laser Therapist | Kauka kukui |



## Continuing Medical Education

The Hawaii Medical Association does not review or evaluate the programs listed in the Hawaii Medical Journal Continuing Medical Education column and assumes no responsibility for educational value, scientific content, changes in agenda or cancellations.

### CALENDAR OF ACCREDITED EVENTS—CATEGORY 1

Accredited Programs of CME allow one unit of AMA credit for each hour of instruction excluding all "breaks." Some programs also are accredited for AAFP prescribed credit.

### LOCAL ACCREDITED PROGRAMS ONGOING

For a complete list of ongoing programs, please refer to the March 1990 edition of the Hawaii Medical Journal. Further information is available through the individual institutions or through the HMA's CME Department.

### SPECIAL EVENTS

All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the Hawaii Medical Journal.

**JULY**
7/24-7/26
**The Second Annual Queen's Cancer Institute Symposium: Gastrointestinal Malignancies '90.** Co-sponsored by the Hawaii Medical Association. Contact: Karen Taoka, Queen's Cancer Institute, 1301 Punchbowl St., Honolulu, HI 96813; 808-547-4660. Location: Hilton Hawaiian Village, Honolulu.

**AUGUST**
8/16-8/19
**Specialties & Primary Practice.** Contact: Symposium Maui, Inc., P.O. Box 833, Makawao, HI 96768, 808-878-6757 or 808-661-8032. Location: Royal Lahaina Resort, Kaanapali Beach, Maui.

**DECEMBER**
12/24-12/30
**Advances in Medicine '90.** Contact: Symposium Maui, Inc., P.O. Box 833, Makawao, HI 96768, 808-878-6757 or 808-661-8032. Location: Royal Lahaina Resort, Kaanapali Beach, Maui.

**JANUARY**
1/28-2/1
**Ninth Annual Hawaii Conference on Gastrointestinal and Hepatic Diseases.** Honolulu Medical Group Research and Education Foundation. Contact: Gastroenterology '91, 1380 Lusitana St., Suite 701, Honolulu, HI 96813, 808-536-1021. Location: Four Seasons Resort, Wailea, Maui, Hawaii

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# And you own it.

# Radiation therapy for carcinoma of the prostate gland: Experience at a community hospital

*Carl W. Boyer Jr. MD,*
*Vincent C. Brown MD,*
*Paul A. DeMare MD,*
*Thanh V. Huynh MD,*
*Charles H. Yamashiro MD*

*Over an 18-year period, 453 men with carcinoma of the prostate gland were treated with curative intent using radiation therapy alone at one large community hospital in Hawaii. A retrospective analysis of the survival of these men was undertaken in order to compare this experience with that of other investigators. Clinical stage was found to be a less reliable prognostic factor than the histologic grade of the tumor. Patients with poorly differentiated tumors had the worst prognosis with a 5-year survival probability of 48.4%. Patients who were otherwise eligible for prostatectomy (stage B1) had the best prognosis, 88.1% at 5 years. Inability to clearly demarcate stages A2, B2 and C was reflected in similarity of survival probability for all of these patients, 69.3% to 70.5% at 5 years. Finally, a selected group of patients with metastatic disease confined to the pelvis who were treated with curative intent is presented herewith and compared to a much larger group of patients with metastatic disease who were treated palliatively. Survival was equally dismal in both groups. X-ray treatment alone can be applied with curative intent to all patients who have no evidence of metastasis, with substantial hope for local tumor control and significant survival.*

## Introduction

In Hawaii, the treatment of patients with carcinoma of the prostate is by no means standardized. Patients with disease confined to the prostate, or at least to the pelvis, are treated with curative intent by surgery, radiation therapy, hormonal manipulation, or a combination of any of the 3. Some are not treated at all if they are asymptomatic. No information has been published to detail the outcome of any of these groups of patients. Treatment preference has been based on work done largely in mainland U.S.A. centers, and extrapolated for local use. Our work serves to document the outcome of a large group of patients treated at The Queen's Medical Center in Honolulu (QMC). It provides a basis for informing patients what they can expect if they choose non-surgical treatment for their disease at QMC.

The authors are members of the active staff of
The Queen's Medical Center, Honolulu, Hawaii.

Prior to 1969, radiation therapy was not used in Hawaii with curative intent for the treatment of patients with carcinoma of the prostate gland. Since then, and until the end of 1986, 453 such patients were treated with radiation therapy alone at QMC. This is the first analysis of the results of that treatment. A number of variables that have been reported to have influence on survival were investigated, including clinical stage, histologic grade of the tumor, volume of tissue treated, and whether or not transurethral resection of the prostate (TURP) was performed. Some non-disease related factors such as the age of the patient at the time of diagnosis and the effect of delay in treatment after diagnosis were also reviewed. The overall survival of these patients was compared to that of an age-matched population of healthy men in Hawaii, and the implications of this comparison are discussed.

## Subjects and Methods

From 1969 through 1986, 657 patients with cancer of the prostate gland were evaluated in the Radiation Therapy Department of QMC. Seventy-three patients were excluded from the study; 40 of these were seen for opinion only and were not treated. The other 33 were excluded because they had undergone radical prostatectomy. One hundred thirty-one patients with metastatic disease were treated for palliation only. The definitive group in our study consisted of the remaining 453 patients (Table 1). The first of these patients was treated in 1971, and most of them have been treated since 1978 (Fig. 1). The mean age of these men was 69 years (Fig. 2). The records were reviewed and the initial clinical staging was adjusted where necessary to conform to the criteria in Table 2.

The study was hampered by a number of uncontrollable variables. Almost without exception, patients were examined by the radiation oncologist only after workup, surgical and other staging procedures were completed elsewhere. Frequently, final staging had to be based on information provided by the referring urologist. There were 24 referring urologists. Histologic interpretation was not standardized since there were 15 pathologists of record. Direct follow-up data were less than complete in a number of instances for 2 reasons. The geographic uniqueness of our island state makes it impractical

*(Continued)* ▶

**TABLE 1.**
**Carcinoma of the Prostate**
**Patients Referred for Radiation Therapy**
**January 1969 through December 1986**

| | | | |
|---|---|---|---|
| Total Referrals | | | 657 |
| Excluded | | | |
| Consults only | 40 | | |
| Radical prostatectomy | 33 | | |
| Total excluded | | 73 | |
| Remaining | | | 584 |
| Palliation only | | 131 | |
| Patients receiving only radiation therapy | | | 453 |
| Stage A1 | 11 | | |
| Stage A2 | 103 | | |
| Stage B (NOS)* | 15 | | |
| Stage B1 | 67 | | |
| Stage B2 | 108 | | |
| Stage C (NOS)* | 1 | | |
| Stage C1 | 114 | | |
| Stage C2 | 9 | | |
| Stage D | 14 | | |

*(NOS=Not otherwise specified)

**TABLE 2.**
**Carcinoma of the Prostate**
**Criteria for Staging**

Stage A. Tumor not clinically apparent. Diagnosis made following TURP for what was considered to be benign prostatic hypertrophy. Stage A1 includes cases in which less than 10% of the chips contain cancer. Stage A2 includes all other cases.

Stage B. Tumor palpable but confined within the capsule of the gland. Stage B1 tumors are estimated to be 1.5 cm or less in greatest diameter. Stage B2 tumors are larger or multicentric, involving one or both lobes.

Stage C. Tumors more extensive than stage B. Stage C1 includes patients with an elevated serum acid phosphatase and/or tumors that have extended through the capsule of the gland into the immediate periprostatic tissues. Stage C2 tumors have extended into the seminal vesicles or into the surrounding pelvic organs.

Stage D. Tumor has spread to lymph nodes, bone, or other distant sites as determined by exploratory olaparotomy and/or convincing radionuclide scan findings. Stage D1 includes tumors with pelvic lymph node metastasis only. Stage D2 includes tumors with distant and/or bony metastasis.

for some patients who live on Neighbor Islands, or on more distant Pacific islands, to travel to Oahu for periodic check-up. The other reason was the reluctance of some referring physicians to share responsibility for follow-up evaluation with the radiation oncologists. Information on these patients was obtained from the QMC Tumor Registry. Unfortunately, the Registry does not routinely record morbidity data, nor does it always record the time of discovery of local recurrence or metastatic disease.

With these limitations in mind, the recorded data were used to generate survival curves using the life table method as described in the *Manual for Staging of Cancer,* 3rd edition, published by the American Joint Committee on Cancer in 1988. Statistical significance of differences in these curves was determined according to the instructions in that publication. There were 25 patients who died and showed no evidence of prostate cancer; survival rates were adjusted appropriately to account for these patients. Table 3 shows the specific causes of death of these patients.

Prior to 1974, patients were treated with x-rays from a 2-million volt resonant transformer. The technique consisted of anterior, posterior, and perineal ports, treating through 2 of the 3 ports daily, each field being treated twice every 3 days, 5 days a week. Field covered nearly the entire true pelvis for a calculated maximum dose of 60 Gy to the prostate. Two final treatments through the perineal port added another 5 Gy (minimum) to the gland. Only 10 patients were treated using this technique. Treatment was delivered by a 6 MEV linear accelerator from 1974 until 1979. Since then, a 15 MEV accelerator has been the equipment of choice when curative treatment is planned. Some patients received treatment to the prostate only, and some received whole pelvis radiation with a boost to the prostate. The prostate-only technique consisted of skip arc rotation therapy with relatively small fields covering the prostate bed or the palpable tumor (7x7 cm to 8x8 cm was usual) to deliver 70 Gy to the center of the prostate in 7 weeks. When the whole pelvis was treated, a 4-field "box" technique was used delivering 45 to 50 Gy over 5 weeks using individually shaped fields, with a boost to the prostate, using

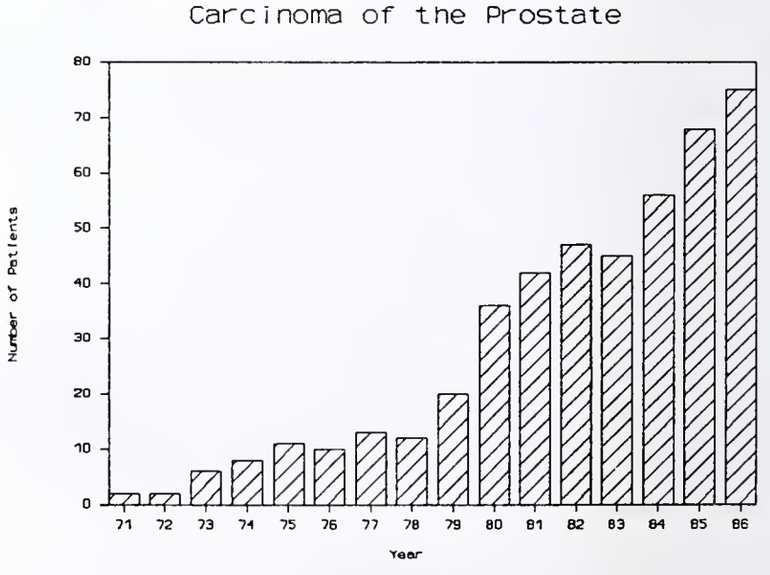


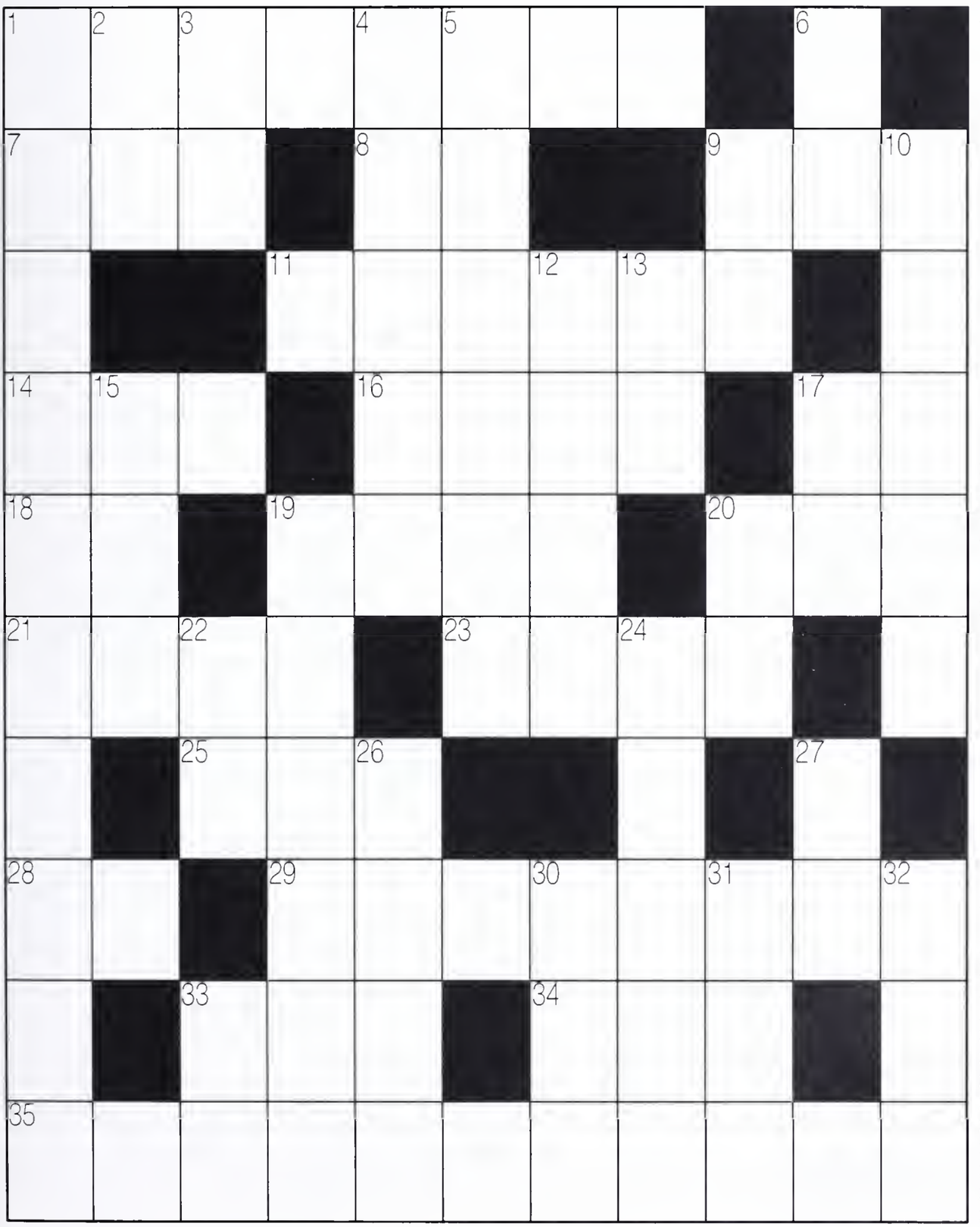

**Fig. 1. Annual Patient Load.**

*(Continued on page 188)* ▶

# Something to pass the time if you're not flying Aloha.

If you're sitting around the airport with some unexpected time on your hands, here's a little diversion. Of course, we hope you *are* flying Aloha. In which case, you can pass this on to someone who's not.

Aloha Airlines



**Across**

1. A good descriptor for Aloha Airlines
7. When the plane is due (abbr)
8. _____ and behold
9. Jet _____, (not experienced on Aloha)
11. Maker of the 737
14. Another form of transportation
16. Big Island destination
17. Pronoun
18. Our favorite state (abbr)
19. Heavenly Maui destination
20. Airline governing organization
21. Therefore
23. Where to find a plane
25. Choose
28. Let _____ show you how to fly
29. What Aloha does every day
33. Tyrannosaurus _____
34. Suffix: enzyme
35. If you're not flying Aloha, you could wait around for this long (3 words)

**Down**

1. What to do if you're not flying Aloha
2. Little guy from outer space
3. California destination (abbr)
4. Sponsor of this puzzle
5. Maker of the 747
6. Avoidance response to questionnaire (abbr)
9. Sweater size (abbr)
10. A good descriptor for Aloha's service
12. Acronym for "I Love Aloha Airlines"
13. Negative
15. Aloha Island _____
17. Laughing sound
19. Well-known Island artist
20. Santa _____
22. Stop's partner
24. _____ Magnificent Men...
26. Most of a big state
27. Often for rent (abbr)
30. Passing fancy
31. Accelerate the engines
32. Big _____, California
33. Pertaining to (abbr)

Solution on page 211

skip arc rotation technique to bring the maximum dose to the prostate to 70 Gy in the course of 7 weeks.

From June 1983 to September 1986, 28 patients received brachytherapy. One of these patients received no other treatment. The rest received external radiation in addition. Brachytherapy consisted of a perineal implant using a template and after loading iridium seed technique. The implant was performed immediately following exploratory surgery and pelvic lymph node sampling. A dose of 30 Gy in 3 days was planned to the implanted volume. If the pelvic lymph nodes were found to contain no evidence of metastatic disease, the implant was supplemented by a boost dose only to the prostate for an additional 30 to 40 Gy over 3 to 4 weeks. If metastasis was found in any of the sampled lymph nodes, wider field pelvic radiation was used following the implant. After 30 Gy over 3 weeks was delivered, the prostate was shielded and an additional 20 Gy was delivered over 2 more weeks. The distribution of these patients by stage was as follows: A1(1), A2(8), B1(7), B2(6), C1(4), and D1(2).

## Results

*Clinical Stage*. There were 11 stage A1 patients and none of them has died. The longest survivor developed bone metastasis 2 years after treatment and is alive with cancer 7.6 years later. Another developed bone metastasis at 5.8 years. The remaining 9 have no evidence of cancer 2 to 7.5 years after treatment.

Survival of the other patients is documented in Table 4 according to stage and is compared graphically in Figure 3. The differences in survival in stages A2, B and C are not statistically significant.

When the survival of patients with stages B1 and B2 is considered separately, the difference is significant at 7 years (p=0.01). Patients with stage B1 disease had an 84.5% probability of 7-year survival compared to 58.7% for stage B2 patients (88.1% and 70.5% respectively at 5 years). The number of patients at risk of death in stage B1 was too small to be significant for comparison with stage B2 patients beyond 7 years (Fig. 4).

Survival of the 25 stage D patients who were subjected to curative treatment (patients with regional tumor extension or only pelvic lymph node metastasis) was compared to the survival of the 131 stage D patients treated for palliation only.

**TABLE 3.**
**Causes of Death in Patients Free of Prostate Cancer**

| | | |
|---|---|---|
| Cancer | | 6 |
| Lung | 3 | |
| Skin | 1 | |
| Leukemia | 2 | |
| Heart Disease | | 9 |
| Stroke | | 4 |
| Liver Cirrhosis | | 1 |
| Pulmonary Emphysema | | 1 |
| Diabetes Mellitus | | 1 |
| Bronchopneumonia | | 3 |
| Total | | 25 |

**TABLE 4.**
**Probability of Survival According to Stage (Percent)**

| Stage | 5 Years | 10 Years | |
|---|---|---|---|
| A | 72.6 | 60.5 | |
| A1 | 100.0 | 100.0 | (7 yrs) |
| A2 | 69.3 | 57.0 | |
| B | 77.9 | 66.0 | |
| B1 | 88.1 | 65.8 | |
| B2 | 70.5 | 58.7 | |
| C | 69.6 | 53.2 | |
| D | 16.8 | 8.3 | (6 yrs) |

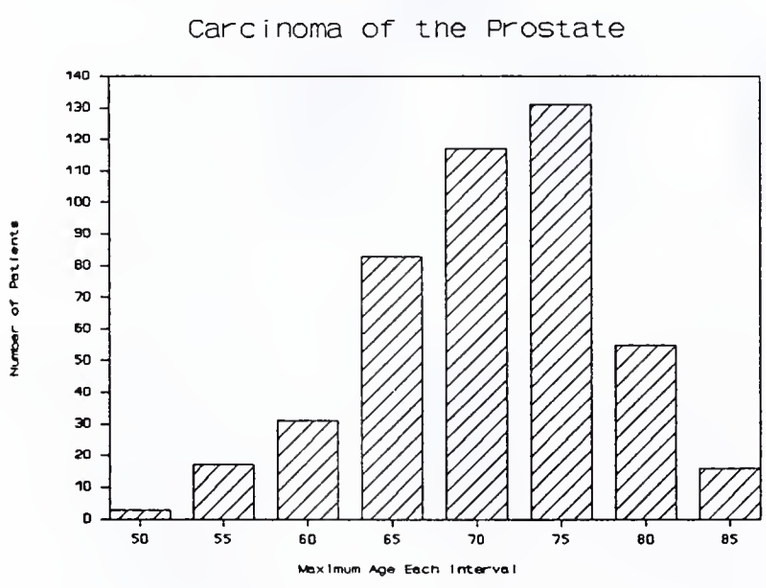



**Fig. 2. Age Distribution. (Mean = 69 years)**

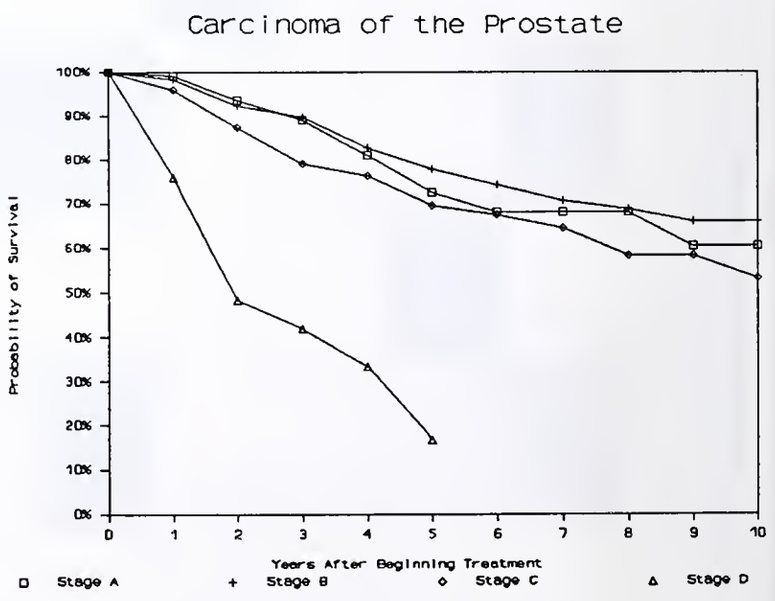



**Fig. 3. Survival by Clinical Stage.**

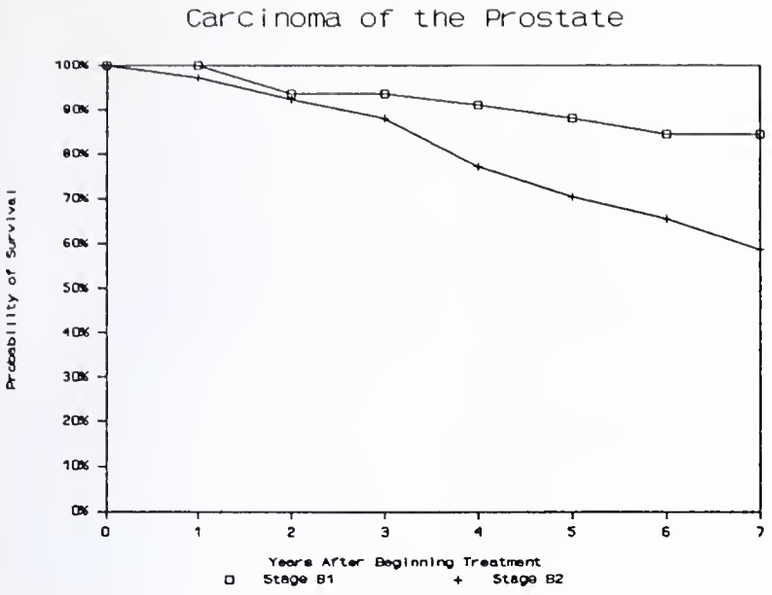



**Fig. 4. Survival in Stage B.**

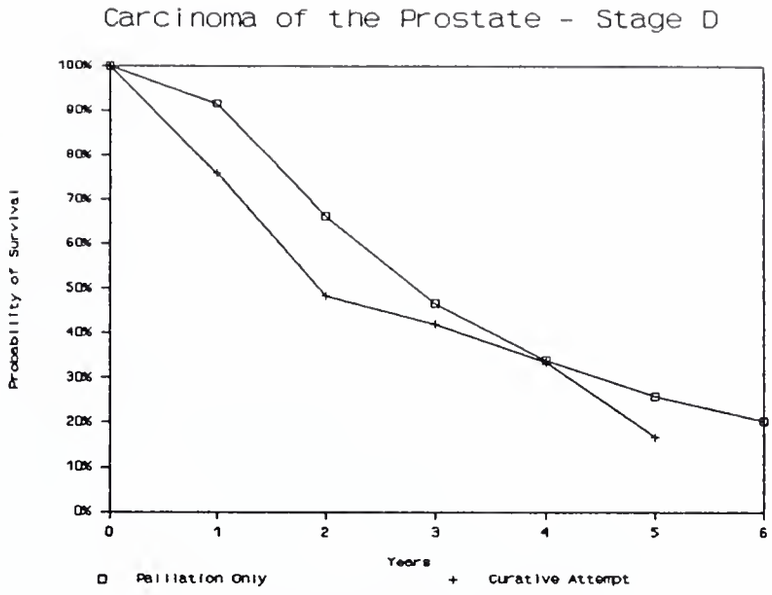



**Fig. 5B. Survival After Diagnosis.**

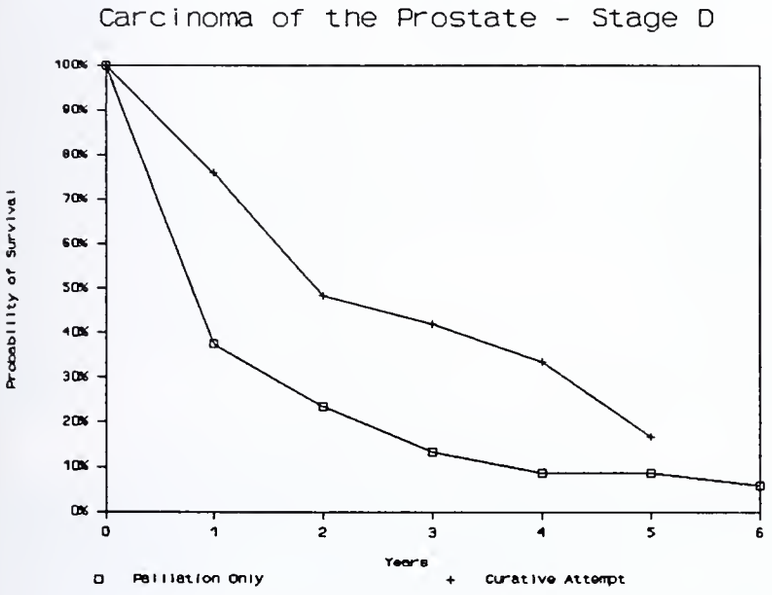



**Fig. 5A. Survival After Treatment.**

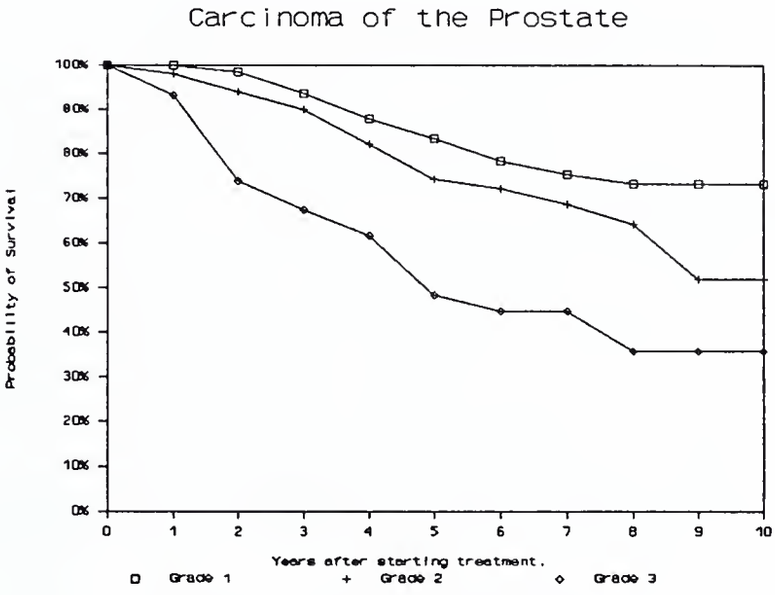



**Fig. 6. Survival by Histologic Grade.**

Although initially survival appeared better for the former group (Fig. 5A), there are no significant differences in their 5-year survival. When survival is calculated from the time of diagnosis in the 2 groups, the survival curves are nearly identical (Fig. 5B).

*Histologic Grade.* In the group of 405 patients for whom tumor grade was reported, there was a direct correlation between histologic grade and survival. When tumors were reported as having histologic grade 3 (104 patients), there was significantly diminished survival at 5 years compared with patients with grade 1 (145 patients) or 2 disease (156 patients) (Fig. 6, p=0.001). The higher grade tumors were more often found in the later clinical stages (Fig. 7).

*Treatment Volume.* Some patients with stage B or C disease were treated with relatively small fields including only the prostate gland. Others had their whole pelvis treated with a later boost dose to the prostate. One patient with stage B1 disease received brachytherapy only and is not included in this tabulation. Survival was better in patients who had the smaller volume of tissue treated (Table 5).

*Transurethral Resection.* When patients with stages B and C disease were subjected to TURP, survival was not as good as in the group of patients who underwent needle biopsy only (Table 6). The differences, however, did not reach statistical significance (p=0.25).

*Age at the Time of Diagnosis.* There were 37 patients who were younger than 60 years old when treatment was initiated. The probability of survival at 5 years was 68.1% and at 10 years was 55% in these patients, compared with 76.8% and 59% respectively in the 416 patients who were 60 or older. Here, too, the differences were not statistically significant, however.

*Delay in Treatment.* For various reasons, treatment was delayed either by patient or by physician. Survival in this group was not as good as in the group of patients treated promptly after diagnosis. There were 42 patients who received no definitive therapy for 6 months or more after the diagnosis of cancer was made. The probability of 5- and 10-year sur-

*(Continued)* ▶

vival in this group of patients was 55.3% and 32.5% respectively. Of the 411 patients in whom the delay was less than 6 months, 5- and 10-year survival was 73.2% and 60.6% respectively (p=0.06).

*Local Recurrence and Distant Metastasis.* Although follow-up information was not documented in all cases, a search through a sample of the study population treated during the 5-year period between 1977 and 1981 was informative. There were 110 patients treated during that time who were followed for at least 5 years since initiating treatment. Sixty patients were free of any recurrence of tumor. Twenty-one patients were alive with cancer. Three of these had both local recurrence and distant metastasis, which appeared simultaneously 3 to 9 years after treatment. All the rest had no evidence of local recurrence, but had bone and/or other distant metastasis. The disease status in 5 of these patients was unrecorded. Twenty-nine patients had died. Two of these died of complications from locally recurrent tumor, and 1 of locally persistent tumor. All 3 died within 13 months after treatment. The rest died with bone and/or other distant metastasis less than 5 years after treatment and never had evidence of local recurrence. In 6 patients the disease status at death was not recorded. In summary, of the 99 patients whose disease status was known, all but 6 had their local prostatic disease controlled and 3 died of complications of locally persistent or recurrent tumor without distant metastasis.

*Morbidity and Complications.* In the above described group of 110 patients there were 2 cases of chronic rectal bleeding and one rectal stricture recorded. Almost all of the patients noted some degree of acute gastrointestinal symptoms such as abdominal cramps, diarrhea, hemorrhoidal aggravation and nausea. Cystourethritis was also common, causing urinary frequency, dysuria and nocturia (which can become quite severe as the result of super-imposed infection). However, these problems were controllable by medication and resolved promptly after the radiation was completed.

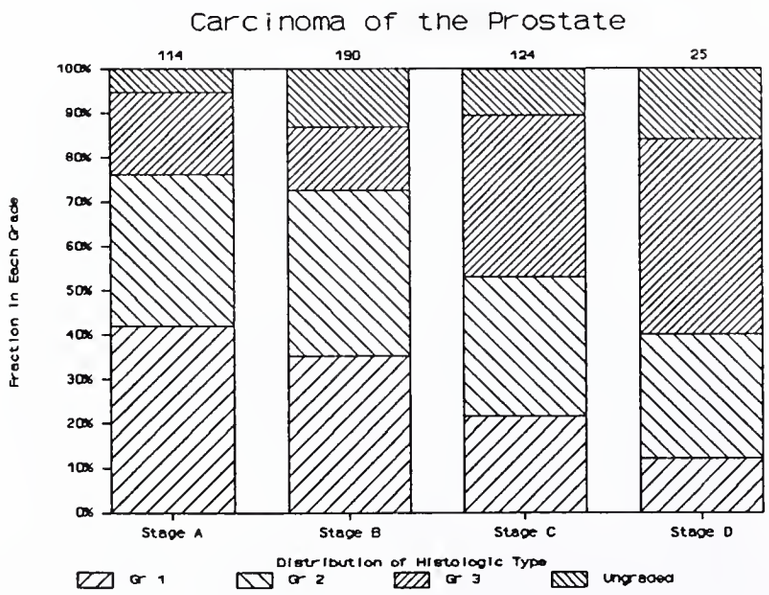



**Fig. 7. Stage versus Grade.**

## Discussion

When a study of cancer of the prostate is undertaken, there is essentially universal agreement that the histologic grade of the tumor is most indicative of expected outcome. Clinical stage, on the other hand, may not be quite so clearly indicative. Other indicators of prognosis are interesting to consider, but remain controversial as to their significance.

*Histologic Grade.* Even though the grading of the tumors in our patients was performed by many pathologists, the pattern of tumor growth was easily recognized so that the differences in survival according to the stated grades were both clinically and statistically significant. It is clear that the generally recognized trend for higher grade tumors to fall into the higher clinical stages is also true of the current study population. It is probably this correlation that gives clinical staging alone a secondary role as a prognostic indicator. Currently, there are a few pathologists in our community who still do not use the Gleason system for grading. Happily they are now in the minority and future studies of prostatic carcinoma should be more easily compared with other reported studies.

*Clinical Stage.* Stage A1 patients do well and probably require no treatment after TURP. It was expected that stage A2 patients would survive as if there had been no cancer. Our patients, however, did not. It appears that they did less well than patients with stage B disease and just a little better than those with stage C disease. The overall rate of survival of the entire group of patients is about the same as is found in other

*(Continued on page 193)* ▶

**TABLE 5.**
**Probability of Survival According to Volume of Tissue Treated (Percent)**

| | Stage B | | Stage C | |
|---|---|---|---|---|
| | 5 years | 10 years | 5 years | 10 years |
| Prostate Only | (157) 80.0 | 68.2 | (42) 76.5 | 56.4 |
| Pelvis + Prostate | (32) 68.9 | 55.8 | (82) 65.9 | 51.7 |

( )=Number of Patients.

**TABLE 6.**
**Probability of Survival With and Without TURP (Percent)**

| | Stage B | | Stage C | |
|---|---|---|---|---|
| | 5 years | 10 years | 5 years | 10 years |
| Biopsy Only | (149) 79.0 | 71.0 | (81) 75.9 | 53.8 |
| TURP | (41) 76.1 | 46.5 | (43) 60.2 | 54.9 |

( )=Number of Patients.



Dr. Holwick outside of hospital where she practices as a civilian traumatologist.



Dr. Holwick in operating room at Letterman Army Medical Center.

## JANN L. HOLWICK, M.D.

General and Trauma Surgeon.
Captain, U.S. Army Reserve.

**EDUCATION** University of Southern California, B.S.; University of California School of Medicine.

**RESIDENCY** Harbor General Hospital—UCLA Medical Center.

**HOSPITAL AFFILIATIONS** St. Luke Hospital; Huntington Memorial Hospital, Pasadena, California; Traumatologist, Arcadia Methodist Hospital, Arcadia, California.

**OUTSTANDING ACHIEVEMENTS** Borden Freshman Prize; Alpha Lambda Delta; Phi Beta Kappa; Phi Kappa Phi; Bovard Award; ALD Award; American Institute of Chemists Medal Award; Summa Cum Laude University of California; Alpha Omega Alpha.

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***References***

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2. *Maintenance therapy*—for healed duodenal ulcer patients at a reduced dosage of 150 mg h.s. The consequences of therapy with Axid for longer than one year are not known.

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**Precautions:** *General*—1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

2. Dosage should be reduced in patients with moderate to severe renal insufficiency.

3. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

*Laboratory Tests*—False-positive tests for urobilinogen with Multistix® may occur during therapy.

*Drug Interactions*—No interactions have been observed with theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450 enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

*Carcinogenesis, Mutagenesis, Impairment of Fertility*—A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a two-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

*Pregnancy—Teratogenic Effects—Pregnancy Category C*—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect, but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

*Nursing Mothers*—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

*Pediatric Use*—Safety and effectiveness in children have not been established.

*Use in Elderly Patients*—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

**Adverse Reactions:** Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events was due to the drug.

*Hepatic*—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to three times the upper limit of normal, however, did not significantly differ from that in placebo patients. Hepatitis and jaundice have been reported. All abnormalities were reversible after discontinuation of Axid.

*Cardiovascular*—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

*CNS*—Rare cases of reversible mental confusion have been reported.

*Endocrine*—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

*Hematologic*—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another $H_2$-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

*Integumental*—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

*Hypersensitivity*—As with other $H_2$-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Because cross-sensitivity among this class has been observed, $H_2$-receptor antagonists should not be administered to those with a history of hypersensitivity to these agents. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

*Other*—Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizabdine have been reported.

**Overdosage:** Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance by approximately 84%.

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studies (71.6% at 5 years and 55.8% at 10 years), and it is therefore probable that understaging is the reason. The distribution of patients by stage at the time of presentation was A(19%), B(33%), C(21%) and D(27%). Ordinarily the distribution expected is A(10%), B(15-20%), C(40%), and D(30%). It is highly likely, therefore, that a significant portion of the patients with stages A and B actually had stage C tumors. It must be recognized that separation of patients with tumors that are large and diffuse but still confined to the gland and those that have just broken through the capsule is not an exact clinical science. Furthermore, distinction between the 2 stages in this study was shared by 5 radiation oncologists.

Patients whose serum acid phosphatase level was elevated automatically qualify for stage C disease no matter what the size of the palpable tumor (it may be barely palpable), further diffusing distinction between the 2 stages. It is currently recommended that these patients be classified as having stage D0 disease. The increasing use of computed tomography, magnetic resonance imaging, transrectal ultrasound, and prostatic specific antigen determinations will undoubtedly help to classify more clearly patients by extent of disease, but staging then becomes more or less a laboratory chore rather than a clinical evaluation.

Survival statistics will undoubtedly improve with the advent of more accurate staging, but that does not mean that more patients will be cured. It does mean that the patients who are more likely to be cured are better identified. Some patients with stage B2 disease will be added to the stage C category, improving the survival statistics of both groups (the Will Rogers phenomenon)[1].

Patients with a solitary nodule 1.5 cm or less in diameter (stage B1) are considered to be the best surgical candidates. They are certainly the best candidates for success with radiation therapy as well. When the disease was more extensive but still confined to the prostate (stage B2), survival was significantly diminished. Survival in this group was nearly identical to patients with stage C disease. Bulk of disease has been identified by others as a prognostic criterion, consistent with this observation[2].

There are only 25 patients with stage D disease who were given radiation therapy with curative intent, more out of hope than reason. These were patients in the younger age group with disease confined clinically to the pelvis who wanted "everything done". The treatment consisted of total pelvic radiation in the hope of eliminating microscopic disease in the lymph nodes, followed by a boost to the prostate. As Kramer[3] and others have shown, pelvic lymph node metastasis has such an adverse biologic potential that one should consider such patients candidates for treatments that have systemic effects.

Difficulties with clinical staging have been previously documented[4,5]. Occult distant metastasis may be present in 20% to 30% of patients. In addition, 6% to 11% of stage A patients have been shown to be in stage C when subjected to prostatectomy. It has been alleged that stage A2 disease can be more aggressive than stage B1 with a 24% incidence of pelvic lymph node metastasis. If tumor is found to be diffusely infiltrating, deaths from or with disease rise to 80%. In a series of prostatectomy specimens believed to be stages A or B, histologic evidence of seminal vesicle involvement was found in 21%. In similar studies up to 90% of patients with clinical stage B1 were found to contain tumor in both lobes (B2), and 19% to 66% of patients with B1 and B2 disease had pathological stage C tumors.

*Treatment Volume.* Our data indicate a better survival for patients with stage B or C disease who were not given whole pelvis radiation. The selection criteria for receiving the larger volume radiation were never clearly defined. Generally patients with the largest and histologically least well-differentiated tumors received the treatment because they were considered to be at greatest risk for having microscopic pelvic metastasis. Such an analysis is therefore a self-fulfilling prophecy. Patients who are not expected to do well do not.

The effect of wide field radiation remains uncertain. There is evidence of a positive effect on survival. Ploysongsang et al.[6] reported an increase in survival in patients with whole pelvis radiation followed by a smaller field boost to the prostate, compared with patients who had radiation to the prostate only. We continue to treat those patients who are at greatest risk for local/regional recurrence with wide field radiation because of the theoretical advantage in regional tumor control, the lack of significant morbidity and the lack of conclusive evidence of a detrimental effect.

*Transurethral Resection.* Table 6 shows that patients who underwent TURP in either stage B or C had less chance for long-term survival than patients who did not have a TURP (except for stage C at 10 years). The RTOG reported a similar but significant correlation in stage C patients[7]. In a series of 343 surgically staged patients, Scardino showed that when lymph node status was considered, there was no significant difference in survival whether or not TURP had been performed[8]. In our series, TURP was performed in order to relieve obstructive symptoms, ie it was done in patients with more aggressive disease; therefore a self-selection factor cannot be ruled out.

*Epidemiology.* Cancer of the prostate gland is equal to lung cancer in prevalence. It comprises one-fifth of newly diagnosed male cancer and causes 11% of cancer deaths. It is a major oncologic problem. Although over the past 30 years clinical trials have failed to demonstrate any major advances in treatment, survival at 5 and 10 years has increased from 48% and 35% to 62% and 42% respectively.

The incidence of the disease has increased from 400/million/year to 600/million/year from 1940 to the late 1970s. The death rate, however, has been steady during this time interval at 210/million/year. These facts create a dilemma in the attempt to understand and document the outcome of treatment

**TABLE 7.**
**Probability of Survival (Percent)**

| | Stage A | | Stage B | | Stage C | |
|---|---|---|---|---|---|---|
| | 5 Yrs | 10 Yrs | 5 Yrs | 10 Yrs | 5 Yrs | 10 Yrs |
| RTOG | 86 | 62 | 76 | 68 | 61 | 37 |
| Stanford | 90 | 70 | 81 | 60 | 61 | 36 |
| QMC | 73 | 61 | 78 | 66 | 70 | 53 |

*(Continued)* ▶

efforts[9]. Cairnes concludes that the observed improvement in survival over the years is not because fewer men are dying from prostate cancer, but because more men are being classified as having prostate cancer[10]. Bailar notes that the prevalence rates are seriously inaccurate[11]. It is likely that many tumors that have the microscopic appearance of malignancy do not have the behavior associated with the word "cancer." Campaigns to detect early and asymptomatic prostatic cancers are bound to include lesions that would not have been detected otherwise. Even if such campaigns saved no lives, inclusion of these non-fatal lesions would increase the proportion of men who survive. The incidental finding of cancer of the prostate in 25% of autopsies attests to this possibility.

Early disease should be amenable to cure if truly localized to the tissue of origin. When curative therapy is offered to patients whose disease is clinically confined to the prostate, the treatment offered may be radical surgery or radical radiation therapy, with equivalent probability of survival. The choice between the 2 is generally a function of acceptable morbidity.

Most patients undergo surgery as the primary curative modality. The proportion of the patient population treated by surgery nationwide has increased from 32.9% to 44.4% from 1973 to 1982. The proportion treated by radiation alone has more than tripled during the same time interval, from 2.4% to 7.6%[12] (it has increased about sixfold at QMC).

Figure 8 compares the overall survival rate of the men in this study with the survival of the age-matched male population in Hawaii that did not develop prostate cancer. The upper curve in that figure is derived from Gardner's data[13]. The curves become nearly parallel after 5 years, as would be expected if some people have indeed been cured.

*Comparison With Other Published Reports.* The RTOG Patterns of Care Study followed 682 patients treated from 1973 to 1975 at 106 facilities around the United States[14]. Ten-year follow-up data were available from 80 of these facilities. Table 7 compares our survival data with that study and with the Stanford data[15]. Clinical staging criteria were much the same in both studies, although many patients were surgically staged in the Stanford series. The poor showing of our stage A2 patients is again illustrated (here reported under stage A), but the results in the other stages are similar or better.

## Conclusion

The number of patients undergoing definitive radiation therapy for carcinoma of the prostate is steadily increasing in Hawaii. This has been the first effort to determine the outcome of patients treated in this fashion from the time such treatment became available. The study consisted of a review of the available records at a large community hospital that has served as the major referral center for the Pacific Islands. Evaluation of the data was hampered by incomplete documentation and lack of standardization of diagnostic criteria within the community.

In spite of these difficulties, it was possible to determine that the outcome of such treatment parallels data published elsewhere. Patients who are to be treated with radiation therapy for this disease can now be better informed of their chances of survival when they are treated at QMC.

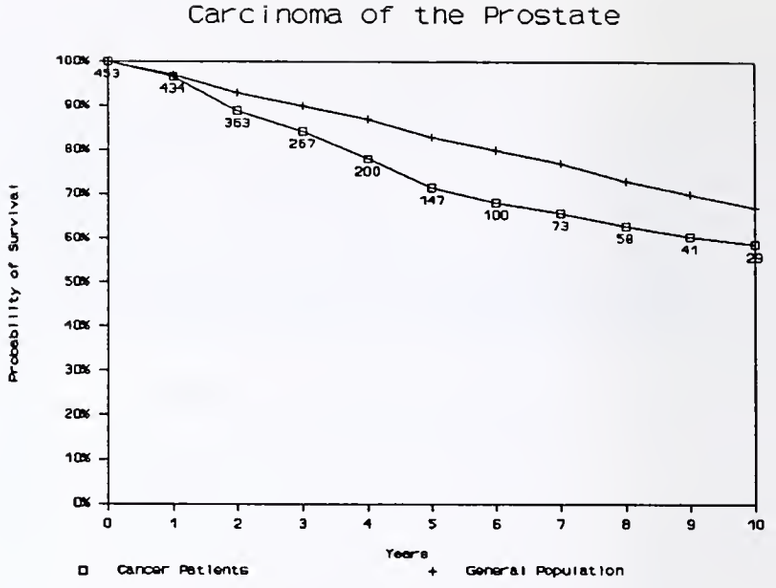



**Fig. 8. Overall Survival.**

Our study identified the need for the standardization of the recording of data throughout our community. Such a program would stimulate the initiation of other community-based studies for the timely evaluation of treatment outcome in all types of cancer.

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# Highlights of the HMA Council Meeting of May 4, 1990

Members present at the meeting were: Drs J.H.C. Kim, J. McDonnell, M. Shirasu, A. Kunimoto, R. Stodd, S. Wallach, K. Brady, M.L. Hefley, W. Young, P. Blanchette, H.H. Chun, P. DeMare, M. Dung, E. Morgan, E. Bade, R. Goodale, D. Fu, H. Percy, E. Gramlich, G. Goto, J. Lumeng, W. Dang, W. Chang. Also present were: Drs R. Ando and J. Nakama, V. Woo (Legal Counsel) and F. Reppun (HMJ Editor). Medical students present were: E. McGuire, N. Kaneshiro, J. Taitague, and L. Kurata. HMA staff present were: J. Won, N. Jones, B. Kendro, J. Asato, P. Kawamoto, J. Estioko, C. Sugita and M. Lindsey (recording secretary).

- The secretary reported the total membership to be 1813, an increase of 78 from one year ago.
- Component societies were asked to remind members whose dues are delinquent to submit them as soon as possible. At this time 139 members' dues with varying balances are delinquent. A number similar to the past two or three years at this time.
- President Kim reported attending a meeting with the State Health Director and his deputy to obtain information regarding medically underserved areas in our State. HMA intends to conduct site visits and investigate to see if HMA can help the State in this.
- At the request of HMSA, Council approved a statement regarding HMSA's past performance as claims processor for Medicaid where, in general, HMA found such to be satisfactory but that this does not constitute an endorsement which HMA reserves for a later time.
- Approved co-sponsorship with UH Department of Political Science for presentations by David Warren JD, professor at the Duke University Medical School, on a most important and timely topic of Alternative Dispute Resolution instead of medical malpractice lawsuits.
- Waived HMA Member registration fee for October 12-14, 1990 annual meeting at the Illikai Hotel; set fees for nonmembers at $300, $150 for military physicians and waived for medical students, residents and allied health personnel.
- Upon recommendation from the Annual Meeting Committee, the exhibit booth fee was set at $800 for 1990 and $1000 for 1991.
- Tentatively approved 1991 HMA annual meeting for October 11-13 at the Westin Kauai.
- The National Practitioner Data Bank (NPDB) re-scheduled for 1990 summer implementation, is a complex and frightening program, with HMA to be deeply involved along with hospitals. Letter to all members to be sent shortly.
- Legislative session for 1990 is over and medicine has been busy and active as usual. Summary of legislature will be sent to members.
- It was announced that the governor had appointed the following physicians to the Board of Medical Examiners: Drs Erlinda Cachola, William Iaconetti and Moon Soo Park. Dr. Allan Kunimoto, immediate past president was appointed to the Board of Health.

Myron Shirasu MD
HMA Secretary




# The Hawaii State Department of Corrections Substance Abuse Strategy

Henry Ichiho MD, MPH*
Gerard DeLisio PhD**
Theodore Sakai MBA+
Sandra Moritsugu MSW, MPH++

## Extent of the Problem

Crime and the fear of crime affect everyone, and are a continuing public concern of all citizens of Hawaii and of the nation. The current federal policy of criminalizing substance abuse will lead to greatly increased interception, arrest, prosecution and incarceration and will have far-reaching adverse effects, as we move into the 1990s. There is a correlation between crime and substance abuse. These interrelated problems that also have been experienced locally, are similar to those that trouble the entire nation. The extent and magnitude of the problem are of serious concern to the DoC.

There were more than 12 million property crimes reported in the United States in 1987. The US Department of Justice estimates that only about one-third of all crimes that are actually committed are reported[1]. Nationally, in the 1987 state ranking by crime rates, Hawaii ranked 39th out of 51 states and jurisdiction based on size of resident population. However, Hawaii ranked 15th in the Total Crime Index (TCI), 39th in violent crimes, and 13th in property crimes. To put this into perspective, on a national level, Washington DC was ranked 48th in size of population but 2nd in the TCI, number 1 in violent crime and number 3 in property crimes, whereas Florida by size of population ranked 4th, 2nd in violent crimes and 1st in property crimes.

In Hawaii, there were 65,461 TCI offenses reported in 1988—this number represented a 4% increase over the offenses reported in 1987. Property crime increased in all categories up to 62,650 reported incidents. The value of property stolen in Hawaii in 1988 increased by 19% to $53,851,000. Whereas decreases took place in most categories of violent crime, the number of murders, rapes and robberies decreased by 12% and the number of aggravated assaults rose by 11%[2]. During 1988, the approximate average number of TCI offenses that came to the attention of Hawaii's law enforcement officials every 24 hours were as follows: One rape, 3 robberies, 4 aggravated assaults, 38 burglaries, 123 larcenies, 11 motor vehicle thefts, and there was 1 murder reported approximately every 8 days. The rate per 100,000 resident population for TCI offenses in 1988 was 5,989. The assumption can be made therefore, that 1 out of every 20 residents, or that 1 out of 5 families (assuming 4 people in a family) will be the victim of a crime.

## Association of Crime/Behavior and Substance Abuse

Research shows a strong association between crime and drug abuse. Many of the substance abusers arrested for commiting violent crimes have extensive previous records of crime. Inciardi[3] reported that active heroin users are responsible for an average of 248 crime-days (24 hour period in which an individual commits 1 or more crimes) per year when using heroin daily, and for an average of 40.8 crime-days per year when using heroin less than daily. Interestingly, only 0.3% of these crimes resulted in arrest (1 arrest for every 353 crimes committed by the sample).

In 1988 in Hawaii there were 59,653 total arrests for non-traffic offenses, of which 12,334 arrests were made for TCI offenses. These are crimes reported to the FBI for the Uniform Crime Report, which includes violent crimes of murder, non-negligent manslaughter, forcible rape, robbery, aggravated assault, as well as the property crimes of burglary, larceny-theft and motor vehicle theft.

Of this number (12,334), 3,791 arrests were for drug abuse violations. The drug problem seems to be on the rise, as evidenced by the increase in drug arrests, drug confiscations and distribution of illicit drugs. The use or possession of illicit drugs is a crime in and of itself. Drug abuse, however, is a contributing factor to other crimes. Physical dependence in the user may lead, and often has led, to crimes to obtain money needed to purchase more drugs. Drug-dependent persons have few options that are within the law in order to secure the required funds to support their habits; they often commit crimes reported as larcenies and robberies or burglaries for this purpose.

## Overview of the Criminal Justice System

The major components of the criminal justice system in the

(Continued on page 201) ▶

* Private Consultant
Honolulu, HI
++ Program Specialist
State Department of Corrections
** Substance Abuse Clinical Consultant
State Department of Corrections
+ Institutional Support Services Administrator
State Department of Corrections
677 Ala Moana Blvd.
Honolulu, HI 96813

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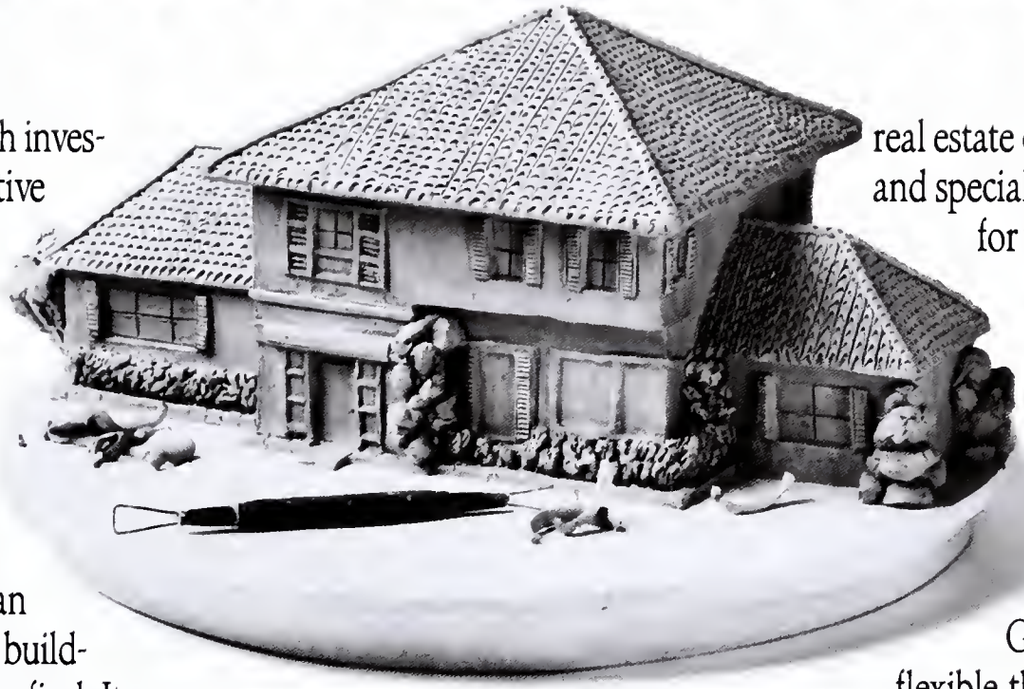
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State of Hawaii are under the jurisdiction of 2 major agencies, the Judiciary and the DoC. The Judiciary Adult Probation Division, Family Courts and the Counseling and Probation Division in the District Courts are under the direction of the Chief Justice. The DoC is charged with the centralized responsibility for the correctional facilities — both jails and prisons. In addition, the DoC has an organizational Division, the State Intake Service Centers for coordination of services. The Hawaii Paroling Authority, Adult Probation, and the Counseling and Probation Division in the District Courts have as one of their major responsibilities the community supervision of offenders. This is an alternative to imprisonment. What with prison overcrowding being a serious criminal justice problem, this function has become more important, ie nearly 3 times as many convicted offenders are placed on probation each year than are sentenced to prison and jail combined.

The Drug problems cannot be solved through law enforcement, prosecution and incarceration alone. The prevalence of substance misuse and abuse in the jails and prisons is high. The offenders are eventually released back into the community, either because they have completed their terms or because they are serving their sentence in community supervision programs. Their drug abuse problem has not been addressed.

In 1986, the Bureau of Justice Statistics Bulletin entitled "Prisoners and Drugs"[4] reported that 78% of the inmates surveyed in state prisons around the nation had used drugs, and also that one-third (32%) were under the influence of drugs at the time they commited the offense resulting in incarceration. Several states are now reporting a higher number of male inmates (over 80%) as identifiable substance abusers and an even higher number of female incarcerants classified as substance abusers.

For several years now, officials in the DoC have been aware of the problem of the substance-abusing criminal offender. The statistics have shown that the large majority of those under correctional supervision or custody have a drug-abuse problem. National studies show that 75-90% of the inmate population has had a prior history of drug and alcohol abuse. Data gathered in surveys conducted on the population of Hawaii inmates indicate that a similar prevalence rate of drug-abuse exists in our State. Given our present inmate population of 2,200, this means that approximately 1,700 to 2,000 adult inmates may have a drug-abuse history.

Furthermore, national studies show that one-fourth to one-third of the drug offenders are re-arrested within 1 year and about 50% return to the corrections system within a 3-year period. The Hawaii Paroling Authority (HPA) statistics reveal that 60% of the parolees return within 6 months and 90% return within 3 years. In FY 89, the HPA estimated that nearly 90% of their revocations were related to substance abuse.

These data indicate that there will be minimal impact on recidivism rates unless the treatment of substance abuse is addressed. The US Department of Justice, National Institute of Justice, has recognized the favorable direct impact of treatment of drug abuse on reduced recidivism and, as a result of its 1988 study of cocaine/heroin convicted abusers/addicts, has developed the following policy recommendations:

•Convicted cocaine-heroin abusers under community supervision should be intensively supervised and compelled to attend treatment during the maximum period of custody.

•Those in prison should be required to participate in drug treatment for 9 months to 1 year prior to release and to continue in community treatment programs as a condition of parole.

•A recommended method of treatment for inmates is the Therapeutic Community (TC), which has demonstrated a success rate of about 80% over a 10-year period, even though its patients included only the most serious substance abusers[8].

In 1989, the DoC began implementing a comprehensive, substance-abuse treatment plan that addresses some of the serious problems that have been identified. However, one must keep in mind that there is no single or simple, solution to the problem of drug-abuse in our society and that there are no simple nor separate reasons for the problems. The plan is based on the concept developed by Narcotics and Drug Research, Inc.'s "Theory of Rehabilitation" as it was presented by Douglas Lipton on June 5, 1989 to corrections personnel at their Annual Substance Abuse Training session in Florida[5,6]. Based on criminology theories, experience and the knowledge gained by the Narcotic and Drug Research, Inc., Dr. Lipton listed 15 obstacles that are personal characteristics that he calls impedimenta. There are blocks that "impede an individual's ability to function at a generally acceptable level in one or more basic social areas." He further suggested that treatment should be directed at these impedimenta: Inadequacy, immaturity, dependency, being-ill-equipped in social skills, ill-equipped in education, vocational maladjustment, cognitive deficiency, compulsive pathology, organic pathology, anti-social attitudes, career commitment, catalytic impulsivity, habitual impulsivity, asocial attitudes and substance dependency.

The above 15 characteristics may appear simply, or in combinations of 2, 3 or more in an individual offender at any 1 time. An offender may be described as being inadequate, or ill-equipped. If there is only 1 characteristic, or a combination, in an offender, one will have a different relative impact upon this individual's behavior as opposed to another. Dr. Lipton further states that offenders have difficulty in performing at a generally acceptable level of behavior and that this contributes to a return to criminal conduct. Treatment should be directed at overcoming the person's anti-social thinking and behavior.

The long-term objective is to return inmates to society free of the addiction. This will reduce the recidivism rate and lower the crime rate. To reach the desired goal, the individual's attitude must be modified through treatment to promote acceptable behavior. The treatment should have a positive impact. The offender will be more likely to satisfy his or her needs through socially acceptable conduct if an emotional value is associated with the compliance with acceptable social behavior.

The initial goal of incarceration may be rehabilitation. However, the best the correctional system can do is to focus its efforts upon attempting to assist the offender to overcome the obstacles and characteristics that resist acceptable social functioning. This is difficult if one does not know what the cause of an individual's criminality might be. However, even without proof that the offender's personal impedimenta have "caused" his or her criminality, there is a rational basis for attacking these impediments in an effort to prevent recidivism.

*(Continued)* ▶

The correctional system must administer adjunctive treatment on a rational basis to offenders within the time frame of legal custody without learning whether or not the factors dealt with in the individual cases are necessarily the cause factors for criminality and substance abuse. It must be emphasized also that crime occurs in the absence of these traits; this should be recognized in the course of treatment.

Although inmates are encouraged to maintain abstinence and sobriety, correctional systems do little in the way of institutional support to help inmates develop moral and social values. Upon release from the correctional system, offenders are expected to assume responsible positions in society and to manage all of the responsibilities associated with those positions. Instead, what with meager or nonexistent support, no skill training and the added burden associated with the stigma of being an ex-inmate, they are expected to make a non-criminal adjustment and maintain abstinence usually in their former crime-ridden environment. They are expected to obtain and maintain employment, keep records of their daily actions and financial transactions for probation or parole officers and to maintain a household. This becomes stressful and conflict-ridden during a critical transition period. Naturally, the offenders under stress resort to old patterns of survival in order to cope and avoid the pain of their existence.

In addition, research shows that people entering treatment for substance abuse have markedly reduced and impaired social networks. Their relationships with others tend to be non-reciprocal. Moreover, most relapses are attributed to high-risk situations that act as stressors. These situations include anger, boredom, interpersonal conflict, social pressure and other stressful situations. Many of these situations account for prior drug use. When the same situation arises after the person has discontinued drug use, the resultant stress may trigger a relapse unless the individual has developed an alternative coping response. Thus, substance abuse could be reduced if the need to rely on drugs as a means of coping can be resolved.

The addiction problems of an offender can be resolved only through compatible treatment delivered over an extended period of time. The addiction problems of offenders derive from and lead to an inability to carry out ordinary life functions and responsibilities. Intervention can be successful only if, while educating the client away from use and dependence on alcohol and drugs, it also enables him or her to develop the resources and skills necessary to be effective within the family and community. This education and development may take many years.

In order to begin addressing the inmate substance-abuse problems, the DoC applied for and received a Department of Justice (DoJ) Substance Abuse Planning Grant in July 1988. This grant provided the resources with which to develop the DoC Statewide Comprehensive Substance Abuse Strategy. To implement selected portions of the plan, the Department received a $400,000 grant from DoJ. This grant will run from July 1, 1989 to December 31, 1990. Its objective is to implement a Therapeutic Community (TC). In accepting this implementation grant, the DoC has joined a network of 10 states that are part of a national demonstration program called Project Reform. The principal investigators of this research project are Dr Harry Wexler and Dr Douglas Lipton of Narcotics and Drug Research Inc.

**Substance Abuse Programs within DOC**

The DoC has built its treatment strategy on the theories described above. The overall framework in which the program will operate requires a continuum of services intended to provide clients with a continuity of care over a range of treatment options both in the facility and in the community.

As part of the resocialization process for inmates, a range of transitional programs will provide options for drug-abusers. Strong linkages with probation and parole agencies will be established in order to assure this continuity of care as offenders move out of the facilities. Indicators of program success will include drug-negative urine samples, regular participation in prescribed program sessions, paying restitutions to their victims and providing evidence of prosocial activity.

Thus, the overriding goal of the program is to increase post-release success by inmates. The programs have been designed to address the unmet needs of this population. The objectives are to eliminate criminality and sociopathic manipulation, reduce substance-abuse patterns, enable positive changes in educational deficits, foster positive work ethics and successful work habits, and promote effective, mutually rewarding, interpersonal and social relationships.

Based on extensive work with "high-risk" populations, individuals have been found to be in need of and respond to first line intervention strategies such as education, casework services focused on ameliorating environmental stressors, and the provision of guidance and counseling. Likewise, these intervention strategies for the DoC have been subsumed under the program components to provide education and treatment that are individualized both as to goals and methods, to use methods and approaches that enhance each client's sense of "self-efficacy" and to provide multidimensional treatment that focuses on the social and environmental aspects of long-term recovery, as well as appropriate personal growth and development.

The continuum of care is structured to provide the necessary guidance and direction at every point along the offender's path. This is to ensure that treatment gains made in the correctional phase of programming are maintained, as inmates are transferred, resocialized and released. It is essential that a transitional service continuum of programs be established between facilities, as well as be established as a condition of parole or probation. Of critical importance in this continuum is the availability of supportive community program services including residential programs, outpatient clinics and 12-step, self-help groups. Information on and referrals to these substance-abuse services are critical in the transitional process. Programs include efforts to assist inmates to identify and resolve transitional issues including housing, substance abuse services, employment, family counseling, education and other support services as are appropriate to the individual case. Parolees and probationers should remain in treatment programs as a condition of parole or probation until the program deems them ready to exit, or until their terms expire. This extension of support services will likely increase the well-being of participants upon release, thereby reducing the rate of recidivism.

The DoC is implementing this statewide comprehensive plan because of the basic philosophical concern that just serving time degenerates men as well as their custodians. This

*(Continued on page 204)* ▶




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plan will use the time as an opportunity to effect personal change. It will be of value to both and will eventually affect favorably the quality of life of the families and friends of both inmates and their caretakers.

The DoC's substance-abuse strategy has addressed the prevention of substance abuse by means of 2 short education programs that will be provided inmates in orientation and treatment programs. However, most of the effort and the resources are being spent on treatment, focusing on both TC and the aftercare programs.

### Therapeutic Community (TC)

A number of states have brought into the corrections field the philosophy and treatment schedules reflective of the TC milieu. Stay 'N Out, a program located in 2 medium-security prison facilities in New York, is considered the prototype and has consistently proven to be an effective drug-abuse treatment program.

Basic elements of a TC include: Nine to 12 months of residential treatment in an isolated prison unit, staff who are capable of serving as credible role models to ex-addicts and felons, an array of educational and therapeutic group activities, hierarchical work-environment in which all inmates have jobs where they begin at the lowest levels and, through hard work, can rise up to leadership positions, a hierarchical arrangement within the social environment wherein residents can gain positions of increasing responsibility with associated privileges through commitment, dedication and mastery of TC and counseling concepts. Close personal and professional ties to community TCs provide a source of community referrals and help maintain the professional standards of the program.

A series of evaluation studies has been conducted to assess the effectiveness of Stay 'N Out. The early evaluation data indicated that the Stay 'N Out program has maintained a positive, pro-social, TC-type environment and positive parole outcomes. These preliminary findings were followed by a more extensive evaluation of program outcome that compared Stay 'N Out with other types of prison, drug-abuse treatment and rehabilitation programs. Again, the overall pattern of results indicated that the Stay 'N Out, prison TC is effective in reducing recidivism rates and that the time spent in the program was positively related to greater likelihood of a good outcome after parole[7]. The findings regarding time spent in the program supported similar findings in community-based TC outcome studies[8].

### Aftercare — Relapse Prevention

Aftercare and continuing care are important elements in recovery from addiction and prevention of relapse. While more needs to be known about addiction, treatment and recovery, much is already known about some of the issues that face an individual about to undergo the challenges of recovery. Zackon[9] summarizes the core issues that are central to anyone in recovery. These core issues should be addressed as a related set of problems in a continuum, when developing any aftercare program:

1. There is drug-craving which can remain strong for many months following physiological withdrawal and which may seem to renew itself upon one's discharge from a drug-free environment. Craving appears to be largely the result of drug-conditioning and is stimulated by a host of settings and events that a recovering person must gradually learn to handle or avoid altogether.
2. There is a need for the development of a new social network of families and friends. This challenge usually demands significant social risks and socializing in unfamiliar ways. Interpersonal relationships and communication skills are critical to these new adjustments for the individuals, families, etc.
3. There is a need to recognize that there is a learning process in adjusting to drug-free activities and satisfactions.
4. There is a need to learn how to respond safely to physical pain and stress. Lacking substantial experiences, modeling and reassurance related to normal discomforts, a newly drug-free person could easily interpret the pain as abnormal, become discouraged and resort to drugs.
5. There is a need for interpersonal intimacy—rather than dependence, but initiating and learning to sustain such relationships becomes the challenge. Many relationships from the past are damaged, others may be available but hard to approach. Intimacy can be vital but especially problematic for a person whose self-esteem is fragile.
6. The risks of relapse are great because various social pressures are so pervasive in our society. Drugs for use and abuse are widely available. In addition to dealing with all the other issues, the recovering addict must learn to resist.

Substance-abusers and offenders very often have dysfunctional personal support systems. Intervention and treatment often interrupt these established personal support systems, as well as provide additional pressures and demands that produce anxiety and confusion. Without strong supports to maintain a life of abstinence, reformed substance-abusers and offenders are likely to revert to old patterns of coping during stressful situations.

To address prevention of relapse, the DoC will implement continuing care and self-help groups, since research shows a strong link between the strength of social support systems, health and coping skills. The self-help and mutual support movement, eg 12-step programs such as Alcoholics Anonymous, has been identified as an approach that utilizes small group processes to enhance communication and interaction with other persons. The primary purpose of these groups is to provide help and support for its members in dealing with their problems and in improving their psychological functioning and effectiveness, without resorting to some external agency or authority.

Self-help and mutual support groups also provide a strong sense of community that constitute a meaningful difference to the individual. Within these groups, members share common concerns and they are offered what is important to their recovery: The understanding and help of others who have gone through similar experiences. Each mutual-help support group provides an atmosphere of acceptance that encourages its members to share their sorrow, fears and frustrations. From there, they can begin to communicate more openly, view their

*(Continued on page 208)* ▶

# MRI CASE OF THE MONTH

## AVASCULAR NECROSIS

**Clinical Information:** The patient is a 39-year-old male with a history of barotrauma and recent hip pain.

**Figure A**

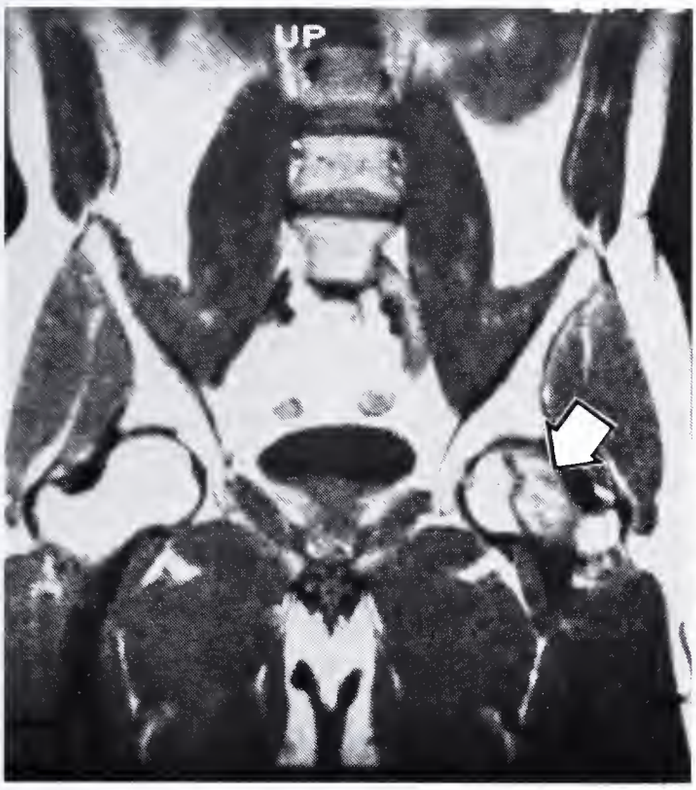



**Figure B**




***These images were produced by MRI Center of the Pacific using their 1.5 Tesla GE Scanner.***

**Radiologic Diagnosis:** T-1 weighted coronal images of the pelvis and hips show that the normal fatty marrow in the femoral neck and shaft is clearly demonstrated on the right side. On the left side, there is an area of infarction with loss of the normal "fat" signal, indicative of avascular necrosis. Contiguous images in the coronal plane clearly demonstrate the extent of disease in this patient's proximal left femur.

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# Eosinophilic pleural effusions

Matthew S. Lau MD*
Francis D. Pien MD**

*We present 2 cases of eosinophilic pleural effusion (EPE) seen recently at Straub Hospital. One occurred in a patient with pneumococcal empyema; the 2nd patient had 2 episodes of EPE secondary to malignant histiocytic lymphoma. Eosinophilic pleural effusion (EPE) is defined as having eosinophils exceeding 10% of the pleural fluid WBC differential. EPE is usually exudative, typically accounting for 1% to 8% of all pleural effusions. Up to 30% to 35% of EPE are idiopathic, while other frequent causes include air in the pleural space (30%), and pulmonary infections (10%). Collagen vascular diseases, tuberculosis and malignancies are common causes of EPE. Although spontaneous resolution and a favorable prognosis predominates in this entity, prudent clinical follow-up is advised.*

Since the first documented case of eosinophilic pleural effusion in 1984 by Harmsen, clinicians have attempted to determine its significance[1]. This condition is defined as pleural effusion with greater than 10% of the WBC differential eosinophils. We saw 2 cases of EPE at Straub Hospital during 1988.

**Case 1**

A 52-year-old Caucasian man with hypersplenism secondary to chronic alcoholic liver disease and renal insufficiency presented himself to us. He was hospitalized for fever, dyspnea and a right pleural effusion. Thoracentesis yielded 500 cc of transudative pleural fluid, which grew *Streptococcus pneumoniae*. The effusion resolved with the administration of parenteral cephalosporin antibiotics. Three weeks later, a chest tube was inserted for recurrent right pleural effusion. Pleural fluid analysis showed the following: Protein 1.8 gm/dl; LDH 62; amylase 39; pH 7.55; 900 WBCs (30% eosinophils, 42% lymphs, 25% segs); 1,610 RBCs. Cytology and cultures were negative. Peripheral CBC showed a WBC count of 4,300 (total eosinophil count of 344). Intrapleural tetracycline was used and there was no recurrence of the effusion after the course of treatment.

**Case 2**

This was a 45-year-old Caucasian woman hospitalized for dyspnea, non-productive cough and a left pleural effusion. Thoracentesis revealed the following: RBCs 1,491; WBCs 1,437 (24% eosinophils, 24% segs, 23% lymphs; 27% monocytes, 3% basophils); protein 4.2 gm/dl; amylase 14; AFB/fungal/routine cultures/cytology unremarkable. Peripheral CBC was normal without eosinophilia. The year before she had a polyclonal gammopathy with elevated IgE and eosinophilic panniculitis suggestive of a T-cell lymphoproliferative cutaneous process. Pleural and bone marrow biopsies were non-diagnostic. Chest CT-scan revealed a 3 cm mass in the left lingular area. Despite a chest tube, the patient had increasing respiratory distress and required thoracotomy for decortication. Lung biopsy confirmed diffuse histocytic lymphoma and the patient was subsequently discharged after chemotherapy. The patient developed carcinomatous meningitis and expired 6 months afterward.

**Discussion**

The incidence of EPE is 1 to 8% of all exudative pleural effusions[2,3]. The degree of eosinophilia ranges from 10 to 90%[4] and may be associated with peripheral eosinophilia[3,6]. Allergic histories are inconsistent in these patients[7]. Jarvinen and Kahanpaa found a predominance of EPE in men over women in a ratio of 15:2. There was equal distribution of right versus left unilateral EPE with only 1 of 17 cases having bilateral effusion[3].

In a review by Adelman et al., there were 3 major causes of EPE: Idiopathic (35%), air in the pleural space (28%) and infection (11%) as shown in Table 1[2]. Hypersensitivity and rheumatological diseases each comprised less than 1% of all EPE. In several studies, tuberculosis was associated with EPE infrequently. Adelman et al. found 14 of 343 cases (8%) of EPE were due to tuberculosis, and only 9 of 700 (1.3%) tuberculosis effusions were eosinophilic[2].

Malignancy accounted for 8% of all EPE such as lung cancer, lymphoma, metastic cancer and other unspecified tumors[2]. In a survey of 245 pleural effusions due to malignancy only 4.9% were eosinophilic in nature Table 2[2]. Benign asbestosis comprised only 4% of EPE; however, a

▶

*University of Hawaii
John A. Burns School of Medicine
**Straub Clinic & Hospital
Honolulu, Hawaii

Presented at the American College of Physicians
Regional Meeting
Honolulu 1989

large proportion (52%) of pleural effusions found in benign asbestosis showed eosinophilia[2].

The pathogenesis of EPE remains speculative. Blood and other substances including air, iodine, chalk, RBCs, gold salts and saline have all been proven to cause EPE when injected into the pleural space of experimental animals[2]. This would explain the development of EPE in chest trauma, pneumothorax and repeated thoracenteses, when air is introduced into the pleural space as a non-specific irritant. Other studies suggest that protein in RBC stroma, immune complexes, or leukotrienes may also have eosinophilotactic properties[2,4].

The long-term prognosis of idiopathic EPE, in the literature, appears favorable. Jarvinen and Kahanpaa found 17 cases of idiopathic EPE between 1946 and 1952, excluding all cases of coincidental pulmonary tuberculosis, cancer, parasitic disease or collagen vascular disease[3]. Fifty-eight percent of these patients had pleural fluid red cells as a possible etiology of the EPE. A 5-to-10-year follow-up of these patients showed that 11 of 17 (65%) remained healthy. Pulmonary tuberculosis developed in 2 of the 17 cases. However, a control group of 52 patients with non-eosinophilic exudative pleurisy showed a much higher rate of pulmonary tuberculosis (40%) over a 5-to-10-year period, as compared to those with idiopathic EPE. Therefore, most cases of EPE have a good prognosis. Only rarely may it be the result of undiagnosed tuberculosis, malignancy or connective tissue disease.■

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## Readers Express Their Views

# In the throes of urgency recurring

Jim Patterson Sr.*

Salt.

Civilizations have risen and fallen around it. Troops have been paid in it. And it has seasoned our food practically since the beginning of time.

But by the time the 20th Century had arrived and medicine, through its many advances, reached the conclusion that salt consumption must be closely monitored, our kind has become legion.

We are the consumers of "water pills," diuretics. The doctor says to take a tablet or two now, and then another at noon.

You know us by our furtive glances and our mounting restlessness, symptoms of our building crescendo for bladder relief. Our need requires us to dance the frantic dance of micturition.

We're self-educated by past experience. When the call comes there often isn't much time, so those accessible restrooms where we can conveniently take care of business are welcome sights. Those restrooms, in banks, restaurants, office buildings and other public areas, save our kind from the threat of accidents.

It would be nice if we could list these good samaritans and their places of business, but to do so would be folly, for the access to us might then be lost.

We are content to say "Mahalo" for the relief provided by these private, yet accessible, facilities — no stairs, no keys and no questions. Just Kane or Wahine on the doors. These merchants deserve our patronage as well as our gratitude for making our lives easier.

They have these assurances. We'll try to keep things bright and shining and neat and clean to show them our appreciation.

*The Editor Responds:*

*Many of us oldsters in medicine recall genial Jim, cheerful and persuasive as he blocked our doorways until we listened to his detailing on behalf of A.H. Robins Co. Aloha, Jim!*

J.I.F. Reppun, MD

* Pharmaceutical Rep. (ret.)
Honolulu, Hawaii 96817

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**DoC SUBSTANCE ABUSE STRATEGY** *(Continued from page 204)*

problems more objectively and find more effective coping skills.

The contribution of self-help groups is to increase the feeling of self-esteem and confidence such that participants can have some control over their own lives. The significant characteristic of self-help groups is that "they are empowering and thus enable their members to feel and use their own strengths — their own power — to have control over their own lives." (Riessman, 1976) As social beings, substance-abuse offenders need to be accepted, cared for and emotionally supported. This also provides them the opportunity to learn to care for and support those around them, thus providing mutual emotional support. The best encouragement of all is to be with others like themselves, successfully getting on and coping with their life situations, despite problems. ■

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# Use of erythropoietin in Jehovah's Witness patients

Robert T.S. Jim MD*

Erythropoietin is used primarily in anemia of end-stage renal disease[1]; it is also beneficial in the anemias of rheumatoid arthritis[2], AIDS[2], cis-platin induced anemia[3], autologous blood transfusions[2-4] and treatment of transfusional iron overload in patients undergoing dialysis[5]. It may be useful in treating Jehovah's Witness patients who refuse blood transfusion, with a caveat that they be informed that each vial contains a very small amount (2.5 mg) of albumin.

**Case Reports**

Case 1. An 85-year-old Filipino man bled excessively following TUR for BPH. His hemoglobin dropped to 7 gms postop. Six thousand units of erythropoietin (EPOGEN)) was given subcutaneously daily for 5 days. Thirteen days later the hemoglobin had risen to 8.6 gms. By the 54th day, his hemoglobin was 10.1 gms. Oral iron was given concomitantly.

Case 2. A 71-year-old Chinese man bled down to 6.5 gms from a duodenal ulcer. Subtotal gastrectomy was done and erythropoietin was given at a rate of 6000 units 3× weekly iv together with iv iron (Imferon). A total of 5 doses of erythropoietin was given. Three days after it was started, the patient's hemoglobin was 6.6 gms. However, the patient expired suddenly 9 days after surgery. No autopsy was done.

Case 3. A 79-year-old woman sustained multiple fractures of the arm, clavicle, ribs, and a dislocated hip in an auto accident; a rapid drop in hemoglobin to 7 gms took place. Six thousand units of erythropoietin was given subcutaneously every other day for 3 doses. Oral iron also was given. She was discharged home in 3 weeks with a Hgb of 14 gms.

All three patients were Jehovah's Witness.

**Discussion**

Erythropoietin is usually given for anemia of end-stage renal disease. However, it appears to be also effective in treating anemias due to other natural or iatrogenetic diseases. It has potential application in anemias of malignancy, aplastic anemia, myelodysplastic syndrome and pre-op cardiac surgery[2].

In our report, 3 Jehovah's Witness patients who refused blood transfusions were given erythropoietin. In Case 1, a rapid rise in hemoglobin occurred after erythropoietin was started, compared to a slower rise after he was given 5 doses. The effect of erythropoietin could not be evaluated in Cases 2 and 3. Thus, another new use for erythropoietin is suggested by this report.■

* *Professor of Medicine*
*University of Hawaii School of Medicine*

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EDITOR'S POSTSCRIPT

Bob Jim submitted this article to the *Journal* in September, 1989. He was surprised and disappointed that before it could see the light of day, Bob's "first" was upstaged by a report in a letter-to-the-editor by Lida Pousada MD et al in the 1 April 1990 *Annals of Internal Medicine*, Vol 112, No 7.

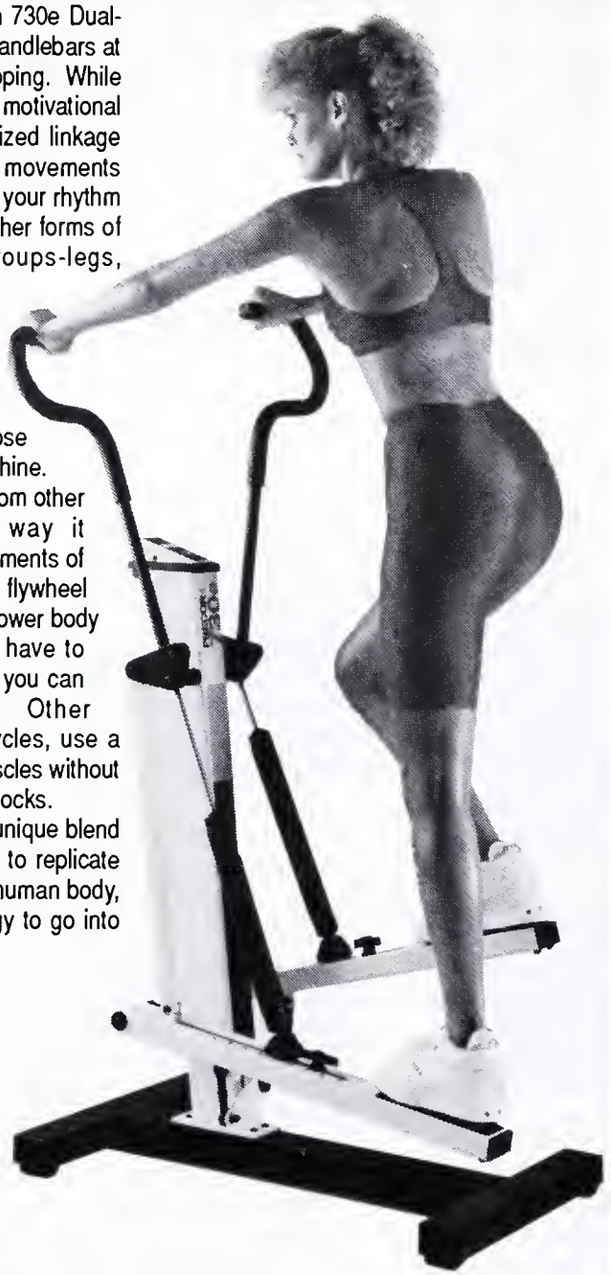
We are truly sorry, Bob; the lead time for the *Journal* is getting longer and longer, as the space available gets shorter and shorter!

The Editor

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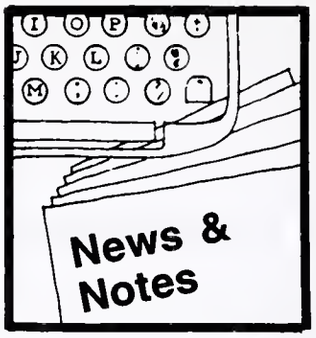
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HENRY YOKOYAMA, MD

## Miscellany ...

The U of Hawaii received $50,000 in federal monies for a project designed to stimulate disadvantaged students . . . 8 high-school students from Papakolea were selected . . . A prominent UH physiologist arranged a frog experiment for one of the brighter students. . . .

"Now, Manuel, you are to cut off one leg at a time, yell "Jump! Jump! Jump!" and record how far the frog jumps."

Manuel severed the left front leg and yelled "Jump! Jump! Jump!" and the frog jumped a foot . . . Manuel next removed the right front leg and again yelled "Jump! Jump! Jump!" and the frog managed a 6-inch hop and crumbled into a heap . . . Manuel cut off the right hind leg and yelled "Jump! Jump! Jump!" and the frog crawled an inch . . . Finally, Manuel removed the last appendage and no matter how often and loudly he yelled "Jump! Jump! Jump!" the frog would not even quiver . . .

"Now Manuel, think carefully and tell us what you conclude from this experiment." Manuel deliberated for 10 whole minutes and the only logical conclusion came to him in a flash:

"The frog is now deaf."

(As told by Bernard Fong, our favorite joke teller)

## Thought For The Day

"Minds are like parachutes . . . They only function when open . . ."

## Interesting License Plate

We spotted a faded yellow Honda Civic SW with California plates that spelled "P-U-P-U-L-E" . . . We daren't even venture a smile for the driver was a local bruiser with grim countenance and steely eyes . . .

## Life In These Parts

"While Dr. Sharon Bintliff was getting together with some of her canoe paddling pals at the Outrigger Canoe Club the other day, a nearby diner clutched her throat. Bintliff, a physician at Pali Momi, performed the Heimlich Maneuver and dislodged a piece of meat from the woman's throat. The Samaritan received a round of applause from her fellow paddlers when she returned to the table . . ." (Hawaii by Dave Donnelly, Sept. 15, '89)

In Feb., Honolulu Medical Group cardiac surgeon Michael Dang presented a program, "Cardiac Surgery in China," and an update on the latest cardiovascular techniques to a Hilo audience . . .

A recent study by David Fitz-Patrick, director

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of The Diabetes Center of the Pacific, reveals that gestational diabetes is much higher in Hawaii (average 9.8%) than on the Mainland (average 1% to 6%). By ethnic groups, the incidence is as follows: Chinese 18.5%, Filipinos 16.2%, Koreans 15%, Japanese 13.5%, Hawaiians 10% and Caucasians 8.1% . . . David adds, "Although 98% of women with gestational diabetes no longer have diabetes after the baby is born, about half will develop Type II diabetes during the next 10 years . . ."

Greg Yuen is a specialist in natural health psychiatry and macrobiotics . . . Greg finished UH med school, took his residency in psychiatry at QMC and is a macrobiotics teacher certified by the Kushi Institute of Boston. Macrobiotics concentrates on food as the main vehicle for enhancing the quality of life.

The diet has roots in Asian medicine and philosophy . . . Greg says, "Chinese philosophy and medicine are intertwined . . . It has to do with the whole, the yin/yang flow of chi . . . "When one eats simply, life becomes simple . . . Chi is a manifestation of energy . . . Energy can be negative, leading to cancer and other ailments; or positive, leading to health and happiness."

## Miscellany

"What do Reagan and the manual typewriter have in common?"

"A semicolon and no memory."

(James Lumeng at a Medicare Meeting)

"What is the difference between a terrorist and a lady with PMS?"

"You can negotiate with the terrorist."

(John Howitt, DISTA rep)

## Physician Moves

(Information from news clippings)

Our apologies for misplacing the following announcements:

In August, OB Gyn Donna Yamada relocated to Kapiolani Medical Center, Ste. 500 . . . Urologist Douglas Soderdahl joined the Honolulu Medical Group with offices in the Pali Palms Plaza . . . Nephrologist Curtis Lee opened at the Hilo Surgical Clinic at 101 Hualalai St., Hilo . . . E. Blossom Wang announced the opening of a third office at St. Francis West Ste. 100 (Her main office is at St. Frances Medical Office Bldg. and another is in Pearl City) . . . OB Gyn Barbara Warkins opened an office at Aiea Medical Bldg., Ste. 501 . . . Internist Edwin Yee relocated to St. Frances Medical Office Bldg., Ste. 104 . . .

In September, Straub announced the following newest physicians: Urologist Stephen Chinn, healthworks Michael Kusaka, neurologist Lee Maher, OB Gyn Janice Hansen, gastroenterologist Darrell Lee (Pali Momi), psychiatrist Lane Matsumura, general surgeon Gene Robinson (Pali Momi), urgent care Monte Elias, anesthesiologist Bradley Hall, and radiologist Robert Lipman.

In October, OG Gyn James MacMillan III joined the Ala Moana Medical Clinic at 1441 Kapiolani Blvd., Ste. 415 . . . General surgeon Carl Lum retired and Victor Chang took over his practice at Ala Moana Blvd., Ste. 608 . . . Internist Jonny Rebudal, pulmonary man Myles Suehiro and OB Gyn Lorrin Lau established the Leeward Health Services at St. Frances Medical Plaza-West, Rm 108 . . . The Faulkner Institute announced the association of Stephen Sheau-Yang Gee (corneal and external disease specialist).

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Puzzle on page 187

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A PUBLIC SERVICE MESSAGE FROM THE INTERNAL REVENUE SERVICE




## Elected, Honored & Appointed

Belated news: The newly elected HMA officers are: president John Kim, president-elect John McDonnell, secretary Myron Shirasu, and treasurer Jeanette Chang . . .

Carolyn Pang, Kaiser employee health physician, runs a team wellness program aptly titled, "Battle of the Bulge," which promotes exercise and good nutrition for 350 participating employees. Increased morale, a feeling of togetherness and the development of leadership skills are some of the key organizational benefits of the program . . .

*Ke Kauka Po'okela Award:* "When Dr. Thomas J. Whelan Jr. got QMC's Outstanding Physician Award Feb. 8, he said fellow Yale classmate Dr. Charles Judd would be standing in his place if he were still alive . . . For winning the prize, Whelan credited nurses, operation schedulers and his patients . . . That his six children are happy — variously, as a pathology professor, nurse, actress, artist and linguist, cook, and teacher — is due to Norma, his high-school sweetheart and wife. 'I was working so much of the time, I didn't have much to do with it,' he says . . .

"Whelan, who has practiced and taught here since 1973, when he retired as a brigadier general from the U.S. Surgeon General's office, is gratified to see many former University of Hawaii John A. Burns Medical School students practicing here . . . He is touched that those most excited about his award are his patients.

" 'Probably my biggest accomplishment was becoming a member of the 300-member American Surgical Association in 1956,' he says . . . Among Whelan's famous patients was Gen. Douglas MacArthur, whom he treated three times at Walter Reed Hospital in Washington, D.C. He has written 80 articles for medical journals . . . At year's end, when a replacement is found, Whelan will retire from private practice and from his UH administrative posts as professor/chair of the surgery department and director of internship/residency programs . . . He plans to work part time with the medical school's new problem-based learning system, in which small groups of students struggle to solve specific problems . . . Whelan will help some, by guiding their areas of consideration, or asking them thought-provoking questions . . . Physicians have to access information constantly, so 'the sooner they learn how, the better,' Whelan says . . . 'I'll still be in medicine, but not have the stresses that keep you on edge when you're involved in a practice or running a program.' (Murry Engle, Star-Bulletin)

*Lifetime Achievement Award:* Peripatetic neurosurgeon Ralph Cloward added yet another feather to his cap when the American Association of Neurological Surgeons and the Congress of Neurological Surgeons awarded him the first and only Lifetime Achievement Award in Feb. this year . . .

## Physicians Speak Up

Health Director John Lewin corrected some of the misleading statements made by Dr. Lorraine Day during a lecture at the State Capitol Jan. 10 re: occupational exposure to HIV — eg. "The test to determine whether a person has the disease may remain negative for up to three years." Jack writes, "Although this is true for a few documented cases, more than 95% of the population will sero-convert within 2 to 12 weeks."

"Another example is her statement that HIV can be transmitted by saliva. There have been no documented cases of HIV transmitted in this way."

## Personalities

*Kim Thorburn, "Child of the '60s"* (As gleaned from an article by Linda Hosek, Star-Bulletin reporter)

"Kim Thorburn, 39-yr-old child of the '60s, is the health-care director of the State Corrections Department . . . She has a staff of 60 nurses and a handful of doctors to care for 2,500 inmates . . .

"Kim got her start at the San Francisco County Jail and at San Quentin . . .

"Kim, an internist, is also an associate professor at UH Medical School . . .

"She is a surfer who goes out in 12-foot North Shore waves . . .

"Kim got rid of her illusions early that prisons are rehabilitative, but realized she could improve health, which occasionally leads to an improved self esteem . . .

"The realism she cultivates figures into her survival formula . . . She always remembers that she is treating a population likely to 'con' her and is potentially dangerous . . . She opposes mandatory testing for AIDS for inmates because she prefers to educate them and have them volunteer . . .

"Outside her job, in addition to surfing, she takes ballet . . . She recently climbed Mauna Loa, taking five days to get to the top . . .

"She'd like to write fiction: 'I think I got great stuff, but I'm not getting anywhere with it . . .'

"Her attitudes for social change are as buoyant today as they were in the sixties . . . She and her doctor boyfriend have been together for 18 years, but decided not to marry . . . 'As children of the '60s, it 's our final statement,' she says . . ."

## Oncology Meeting (KMC 4/19/90)

Visiting surgery prof Frederick Green from U of South Carolina lectured on "Endoscopy in the Evaluation and Treatment of GI Malignancy."

Fred reported finding 8 gastric Ca cases when he scoped 150 asymptomatic patients who were 15 years post-gastrectomy (Bilroth I and II) for gastric and duodenal ulcers . . . He recommends that in the future, routine endoscopy be done on patients who had bariatric therapy, who are chronic $H_2$Blocker users and who had Heliobacter pylorii infections . . .

Glen Kokame was curious: "Women generally do better than men. How many women patients with gastric Ca did you find?"

Fred: "None, since they were all VA patients . . ."

Glen: "More and more gastric resection patients are having Roux-en Y done to prevent relux."

Fred: "So now the patients develop Roux-en Y syndrome secondary to the stasis."

Bob Oishi: "You are recommending routine endoscopy at 15 years . . . Why not earlier?"

Fred: "For economic reasons and also because the patients are getting into trouble at 20 years post-op."

One of Fred Green's slides had a quote by Voltaire: "The art of medicine consists of amusing the patient and letting nature cure the disease . . ."

## Oncology Dialogue

Urologist Bill Shiraki presented 2 cases of bladder Ca . . . One was a 68-yr-old Japanese male with an episode of gross hematuria and a 2-year history of urinary frequency. He was a non-smoker

but had an old Tb scar on chest X-ray . . . Radiologist Donn Kumasaki described an irregular mass on the Rt superior wall of the bladder on IVP . . . Bill found 3 lesions, 1 central and 2 satellites at surgery . . . "We were able to peel off the tumors and fulgurate their bases . . . It's a T1 lesion, but with multiple lesions, there will be a greater tendency to recur . . . We elected to use BCG without the Mitomycin (which costs $400 per dose) . . ."

Pathologist Grant Stemmerman reacted: "I worry about BCG therapy on a patient with an old Tb lesion . . . My sister had a similar situation . . . (i.e. BCG therapy for transitional cell Ca with an old tuberculous lesion) . . . My antennae started vibrating again when I heard this . . . I can conceive of reactivation of Tb and also a possible allergic response to BCG . . . "Bill responded, "We thought of this and plan to follow him very close . . ."

The second case was that of a 48-yr-old Caucasian woman realtor who was treated for recurrent hemorrhagic cystitis at another institution . . . She had smoked heavily for 25 years and ingested 10,000 mg of vitamin C daily (perhaps to counter the toxic effects of her smoking) . . . Bill scoped her and found a large mass on the left bladder wall, which he biopsied forthwith . . . Pathologist Larry McCarthy described the path as poorly differentiated transitional cell Ca . . . She subsequently consulted 3 other urologists for second opinions and finally ended up with oncologist Clayton Chong, who will be treating her with a new regimen . . . Acting moderator Ken Sumida turned to Grant Stemmerman: "Stemmy, can you comment on transitional cell Ca?"

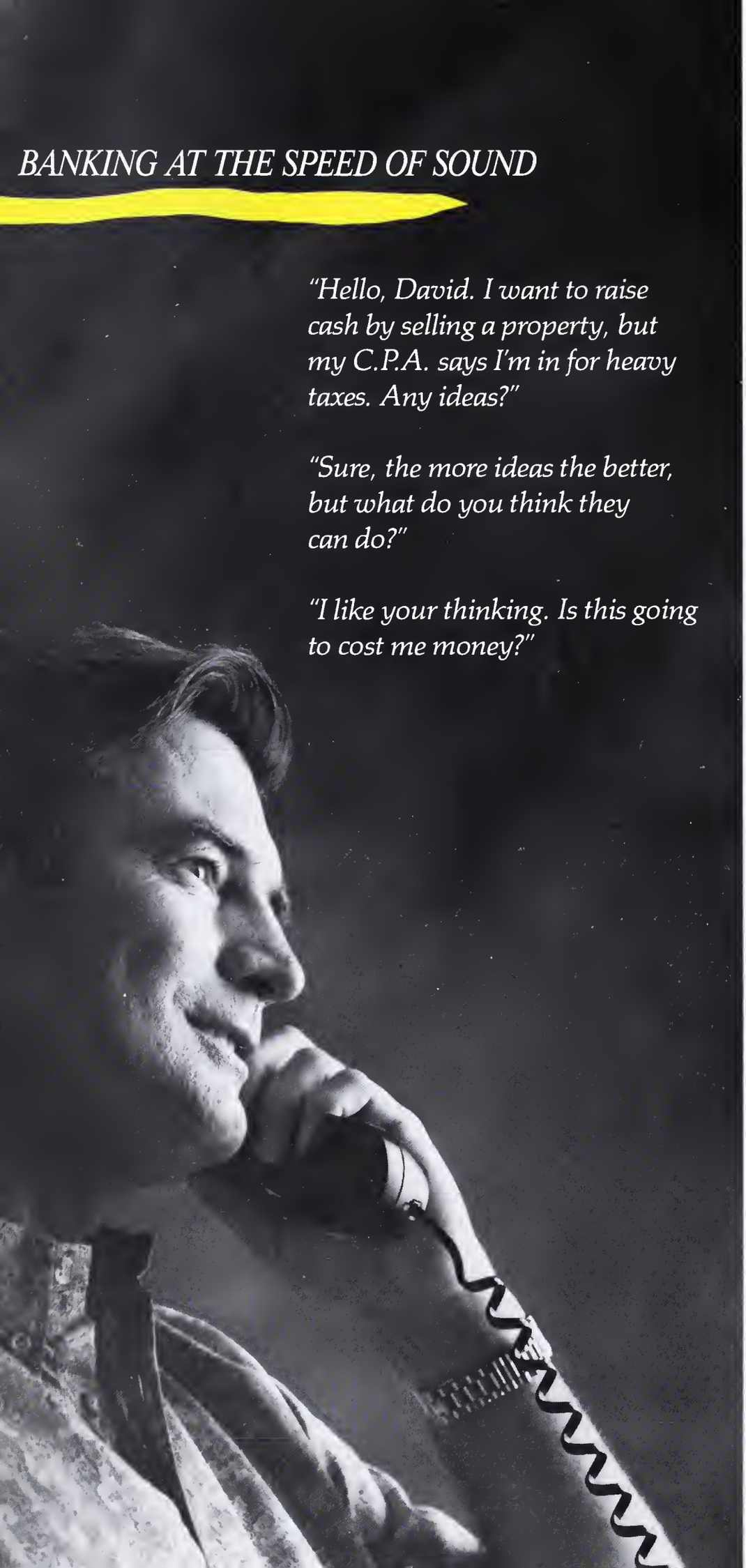
Stemmy: "There is male predominence and smoking is a main component . . . Bladder Ca is common in Japan because of the chemical industries and smoking . . . and perhaps even computer screen exposure . . ." Ken asked Clayton: "The T4 lesion will be difficult to resect. What are the plans?" Clayton: "The risk factors include smoking industrial chemicals, aniline dye and even radiation exposure from cervical Ca treatment . . . Unfortunately, her manipulative personality has delayed her treatment . . . Chemotherapy should be an integral part . . . My plan is to give her 3 courses of CMV and then re-evaluate. This is not within protocol, but her personality does not fit into the protocol." Ken to Charley Yamashiro: "What is the role of radiation therapy?" Charley: "Skinner's approach would be 4,500 rads preop over a 4- to 5-week period and then rest a few weeks, which would delay surgical intervention by months . . ." Clayton: "No one knows how many courses of neoadjuvant therapy will be necessary. The rationale is that with residual tumor, no one's going to touch her . . ." Bill described the urgency of the situation: "The tumor is advancing rapidly and she's already had some hydronephrosis." Jeff Nakamura addressed the problem of the patient, who insists on multiple consults . . . "The patient feels a need to be in control, but they manage to intervene with their own treatment." Bill added, "She even had to consult her nutritionist before we could schedule the cystoscopy . . . Jeff was philosophical: "It will be interesting to see how the high vitamin C will affect the CIS platinum . . . Who knows, she may even have a withdrawal reaction to the vitamin C . . .

## Miscellany

'Twas Christmas eve and Santa came down a narrow chimney with a bag full of toys . . . He was surprised to find a lovely blond in revealing neg-

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## NEWS AND NOTES

*(Continued from page 213)*

ligee reclining on a sofa and sipping wine . . . "Santa, do you have to go?" she invited . . . "Ho, Ho, Ho! Gotta go — Got all these toys to go." The lovely thing slowly removed her bra revealing a pair of luscious beauties." "Santa, why don't you come and sit a while?" "Ho, Ho, Ho! Gotta go! Got all these toys to go." The sexy blond removed her negligee and lounged invitingly on the sofa . . . "Santa, do you really have to go?" "Ho, Ho, Ho! Gotta stay, can't get up the chimney this way!"

(As told by our Beretania tennis pro, Clay Benham)

### Medicare Review Meeting (At La Salle Restaurant)

Surgeon Harry Oyama commented, "Just like the good ole days, eh?" (Recalling the monthly meetings of yesteryear when the board met at various restaurants wherein humor, wit and scholarly adjudication was the menu of the day . . . Henry and Gordon Liu mulled over 3 or 4 surgical cases . . . One was a 24-year-old woman who had a vaginal hysterectomy and Herbert K.W. Chinn, the younger urologist, was all for denying the preop D&C fee, but Henry and Bernard Fong, our erudite Medicare consultant, felt the D&C fee was warranted . . .

Ophthalmologist Shigemi Sugiki felt that charges for bilateral A-Scans were warranted whereas Medicare had been denying the second scan for preop cataract surgery exams . . .Shigemi also felt that the fee for laser peripheral iridectomy was too low and that it should be at least on par with surgical iridectomy since the former eliminated the need for a preop physical exam. He pointed out that surgical iridectomy could be done even by a first-year resident whereas laser iridectomy required finely tuned skills . . "It is a Catch-22 situation. We were told by Medicare that we could only charge the lower fee for laser iridectomy. Once we lowered our fees, we were told that we couldn't raise the fee because we had been using it." In the same vein, Gordon Liu was concerned about the new guideline fees for endoscopy and non-invasive vascular procedures as recommended by the medical directors meeting . . . "If we agree with them, will the fees become permanent?"

### Miscellany

A pious Christian lady married a non-Christian who believed in reincarnation . . . Her beliefs prevailed and he even joined her church and they lived a happy Christian life . . . One day, the husband went on to the great land yonder . . . Curious about how he was faring, she arranged a seance with a reliable medium . . .

"Where are you dear?"

"I'm in Heaven."

"Can you describe what it's like?"

"Well, the sky is blue, the grass is green and there are lovely cows grazing all around me."

"Are you sure that is Heaven?"

"Sure Honey, I'm a bull in Texas."

(As told by Harvey Peltz, our ICI rep)

What's the difference between a bartender and a nurse? The bartender puts a shot in your glass while the nurse puts a shot in your ass.

(Another Harvey Peltz joke)

# Maka O Ka Kauka*

RUSSELL T. STODD MD

**There are some people who, if they don't know, you can't tell 'em.**

With a predictable bureaucratic attitude of "don't confuse me with facts," the Health Care Financing Administration is continuing with the program of advance PRO clearance for cataract surgery. The turn-down rate has been minuscule — in Michigan the screening program cost $1 million for nine months, and saved (delayed?) $40,000 in cataract claims; in New York there were 16 denials out of 2,153; in North Carolina (highest percent denials) 30 out of 8,360 for a rate of less than 1/2 of 1%. Rather than trash the program, HCFA will expand it, and study the reviews' role in restraining cataract surgery volume. This is a brilliant idea, except for three minor flaws. It is worthless, expensive and stupid. But then, what better way to spend the "peace dividend?"

**Ignorance is a voluntary misfortune.**

Excelsior! Ever upward and onward rolls the legislative march of the pretenders and the paramedicals, on to the floor of our State Capitol. The psychologists, the nurse practitioners, and nurse midwives want prescriptive powers. In Montana, a bill would allow anyone who attends a five-hour EMT course to deliver babies (I am not making this up), and lay midwives in Illinois filed a federal lawsuit against the state, claiming they have a constitutional right to deliver babies. Meanwhile, 10 states presently have bills pending for optometric therapeutics. Twelve states have rejected such legislation, but 23 have therapeutic laws in place. These efforts are political, not educational. Numerous, well-documented studies have shown that it is cheaper to rent politicians than pay tuition.

*The Eye of the Doctor

*(Continued)* ▶

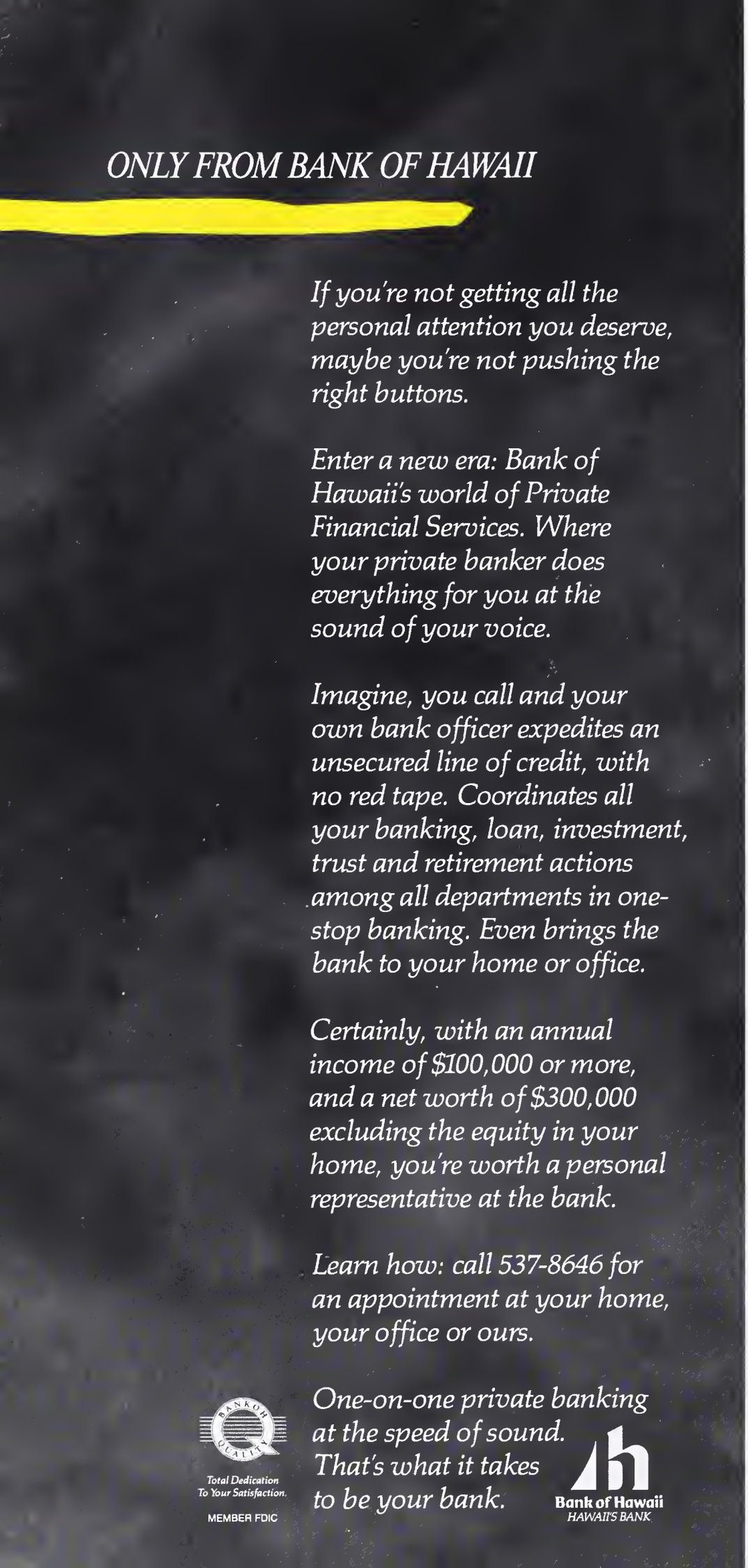
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**MAKA O KA KAUKA** *(Continued)*

**Feather by feather, the goose is plucked.**

About a decade ago, the Hawaii Legislature established a patient compensation fund allegedly to provide an umbrella for medical liability. It was a failure, underfunded, and ultimately abandoned by physicians and the state government. A similar plan in New Jersey went $64 million in debt, with the result that every physician, hospital, podiatrist, and HMO doing business in New Jersey will pay a surcharge on malpractice premiums for the next *seven years.* Doctors who were protected by the fund will pay an additional 5% annually, and those who were never covered will pay an extra 2-1/2%.

**"Truth is the proper and sufficient antagonist to error and has nothing to fear from the conflict."**

Here in Hawaii Nei the Medical Claims Conciliation Panel (MCCP) must be considered a successful mechanism for reducing medical liability complaints. For the fourth straight year, the total number of claims filed has declined — from a high of 155 in 1985 to 94 in 1989. It appears that the total number of claims has plateaued, and that claimants' attorneys are thoroughly reviewing potential claims before actually filing. In a recent survey of 57 claims, 16 involved findings of actionable negligence, while in 41 claims the panels found no negligence. Only five cases of the 41 were believed to be without merit, but none was thought to be fraudulent.

**Among economists, the real world is often a special case.**

The General Accounting Office (GAO) wants to save Medicare $98 million annually by cutting the benefit for glasses following cataract surgery. The GAO claims that such payment is unjustified because conventional eyeglasses serve the same function as they do for those who have not had cataract surgery. The report recommends continuing to pay for cataract glasses and contact lenses for the small percentage of patients who do not have IOL implants. AAO spokesman Dr. Allan Jensen, responded that the surgery itself will cause a change in refraction that might not have occurred without the opera-

*(Continued)* ▶

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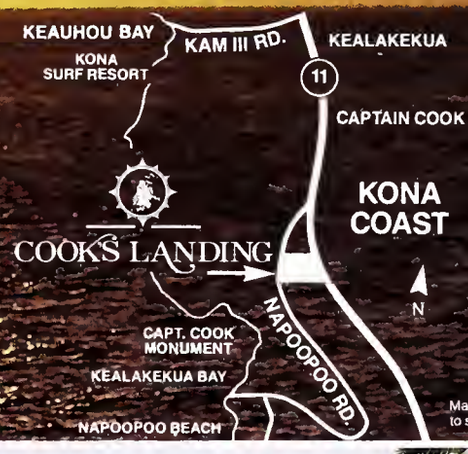
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tion, and this benefit should not be withdrawn.

**"A radical is a person with both feet planted firmly in the air."**

William Roper, MD, former head of HCFA, who orchestrated and manipulated the congressionally mandated PPRC and the Hsiao study, has never confused his understanding of medical problems by actually practicing medicine. Dr. Roper has now moved on to another sphere. After a brief stint as White House "domestic policy deputy," he has been appointed head of Centers for Disease Control in Atlanta.

**"It's true as taxes is, and nothing's truer than them."**

If there is one thing that drives our dedicated Congress people crazy, it is money earned but not taxed. Thus, they are looking hard at pension funds, and spinning schemes to attack those golden repositories. So it is that two Republican senators (you remember them — less government, balanced budget, less regulation, free enterprise) Dole and Kassebaum want to tax pension investments 10% when they are turned over in less than 30 days, and those turned over in less than six months would be taxed 5%. Using Orwellian doublethink, they call the plan a *tax incentive*, and claim this would encourage long-range investment of pension money.

**The more you say, the less people remember.**

Shig Sugiki, MD, our trusted, reliable laconic counselor to the American Academy of Ophthalmology reported at the March HOS meeting on the most recent meeting of the AAO Council. He stated that rumors flowed heavily in regard to Dr. Hunter Stokes and his public utterances, but no action nor recommendations were presented at the meeting. Also, he discussed a planned Academy pilot marketing program, which will be instituted in Charlotte, North Carolina; Cincinnati, Ohio,; and Portland, Oregon. The plan is slated to last three months and will involve TV messages explaining the unique qualifications of ophthalmologists, and stressing the importance of medical eye examinations. A telephone number will be provided and a rotating list of physician-participants offered to patients. If the program is a success, the materials and methods will be offered to state and regional ophthalmology groups.

**God made the first garden, Cain the first city.**

Finally, Professional Research Consultants of Omaha, polled CEOs of hospitals and found that 55% blame Congress for a lack of leadership as the major cause of our health-care problems, 26% fault the health-care field, 10% name the Bush administration, and 7% blame consumers.

**Addenda**

—Traveling overseas, your chances of being killed by terrorists is one in 650,000.

—Your chance of committing suicide is 12/100,000, being murdered 8.8/100,000.

—Much less risky, the odds on your dying in a commercial plane crash are 1.6 in 10 million (you are six times more likely to be killed in a simple fall).

—Jerry Robinson, serving a life sentence in Auburn, New York, for murdering two police officers, petitioned to be released because his heart had stopped beating for two minutes during open heart surgery — thus ending his natural life, he said, and fulfilling his sentence.

Aloha, and keep the faith.

RTS
from "Weathervane"
Volume VII, Number 4, April 1990

# Our First Report Card.

Recently, *Automobile Magazine* assembled five of the world's newest luxury sedans. For four days, the editors evaluated this high-performance quintet on such critical matters as ride, handling, comfort and value.

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| RIDE | 1 | 5 | 5 | 10 | 5 |
| HANDLING | 9 | 7 | 6 | 8 | 6 |
| NVH (Quietness) | 1 | 6 | 6 | 14 | 6 |
| EXTERIOR | 4 | 9 | 4 | 7 | 4 |
| INTERIOR | 3 | 7 | 5 | 7 | 5 |
| COMFORT | 2 | 5 | 7 | 9 | 5 |
| ENTHUSIAST'S CAR | 9 | 10 | 5 | 7 | 5 |
| BEST VALUE | 3 | 4 | 5 | 9 | 3 |
| **TOTAL** | **40** | **64** | **63** | **90** | **43** |

*Subjective scoring reprinted from Automobile Magazine, Nov. 1989. A total of 300 points were allocated among the editors and spent freely as each saw fit.*



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Their conclusion?

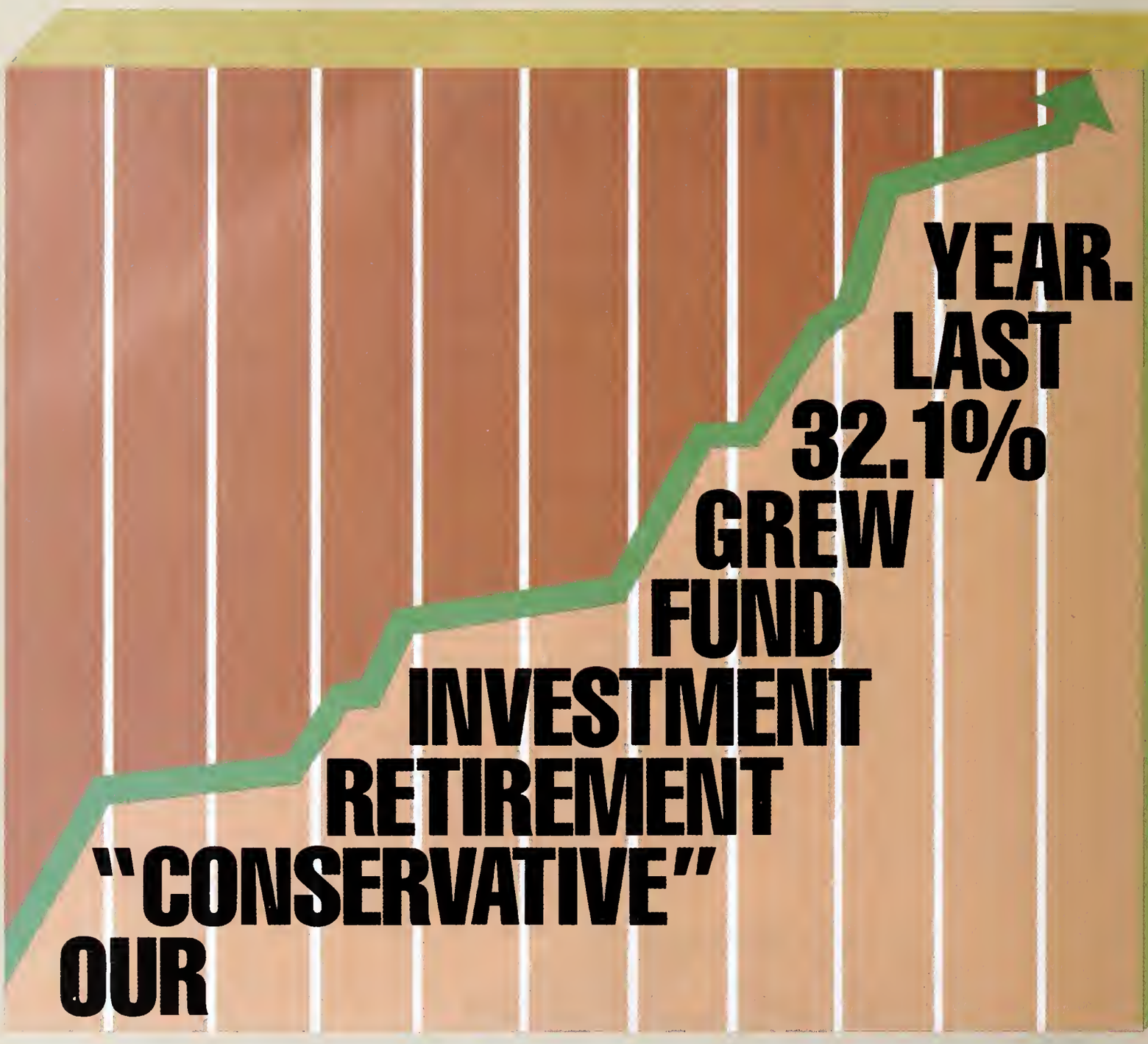
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## CONTENTS

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**EDITORIALS** 224
**Cholesterolemia**
**AIDS**
**More AIDS**
J.I. Frederick Reppun MD

**LETTERS TO THE EDITOR** 229

**HAWAII AND THE AIDS EPIDEMIC** 233
Leo Uzych JD MPH

**SUMMARY OF HAWAII LAW RELATING TO HIV** 236

**AN UPDATE ON THE PATHOGENESIS OF ATHEROSCLEROSIS** 237
Robert W. Wissler PhD MD
Dragoslava Vesselinovitch DVM MS

**ATHEROSCLEROSIS IN JAPANESE IN JAPAN AND IN HAWAII** 262
Grant N. Stemmermann MD
Takuji Hayashi MD

**THE EVALUATION OF THE PATIENT WITH HYPOCHOLESTEROLEMIA** 264
John Melish MD

**CONTINUING MEDICAL EDUCATION** 269

**POEM** 271
**Most Contaglous**
Robert S. Flowers MD

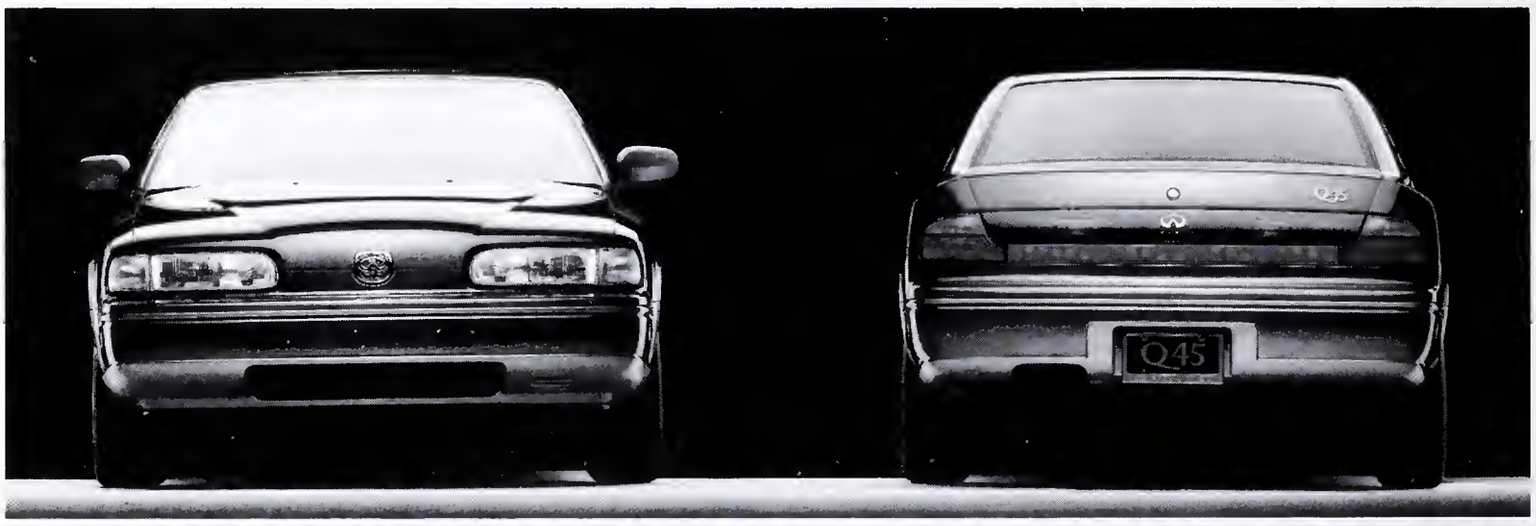
**CLINICAL PATHOLOGIST'S CHAIR** 272
**Gastrin**
Francis H. Fukunaga MD

**NEWS AND NOTES** 275
Henry Yokoyama MD

HAWAII MEDICAL ASSOCIATION 1856

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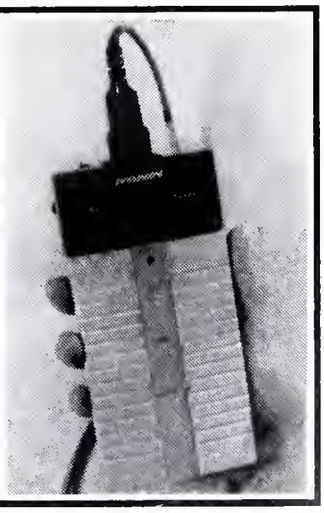
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# Cholesterolemia

David Scollard MD PhD, Associate Professor at the UH School of Medicine, has assembled three articles on a topic our patients ask about rather frequently: "How's my cholesterol, Doc?"

One can hardly say that the popular media have ignored the subject! It has been beamed, mailed and thrown into every household in America, not to speak of being emblazoned on the outside of shopping bags. Professional literature has been a major tributary to this large river of dietary advice.

In this issue of the *Journal,* Scollard has given us a taste of what was submitted at the Winter Meeting of the Hawaii Society of Pathologists in January of 1989. Jim Lumeng also had a hand in bringing this about.

First comes John Melish with a look at the individual patient; next comes Robert Wissler, guest speaker, Distinguished Service Professor and Program Director of the Multicenter Cooperative Study of the Pathobiological Determinants of Atherosclerosis in Youth, from the University of Chicago; he gives us a clear picture of what goes on in the lethal plaque; and lastly, comes Kuakini's researcher and Pathologist Emeritus Grant Stemmerman, with a comparison of the vascular systems of Japanese men who died in Japan as against Japanese men who, as residents of Hawaii, died here, some 20 years ago — long before it became unfashionable to eat chicken skin, Kalua pig, Laulau, rice and spam smothered in mayonnaise and topped off with rich coconut milk Haupia.

J.I. Frederick Reppun MD
Editor

# AIDS

Leo Uzych JD MPH has submitted an article that we consider to be of value to our readers; it addresses the important issue of how the State's law-makers have dealt with the difficult problem of coping with this expanding pandemic caused by the Human Immunodeficiency Virus (HIV).

The author's credentials appear to be impressive: Bachelor of Arts degree magna cum laude from the University of Pennsylvania in 1975 (which leads us to believe he may be a young man of 40). He obtained his Juris Doctor degree 4 years later from Temple University Law School and a Masters degree in Public Health from Columbia in 1982. He is an attorney specializing in health law in Wallingford, Pennsylvania, and is a freelance writer.

In a personal communication he has indicated an interest in the ways several states are dealing with the social implications of AIDS and thought that Hawaii's law was a good model for discussion.

However, Hawaii has not solved the problem of the dichotomy between the traditional public health approach to a contagious disease and the social need to consider this particular disease in terms of humanism (see the letter-to-the-editor in the April '90 issue of the *Journal*).

The written word and the audio-visual broadcasts have filled the communications media on the subject of AIDS. Nevertheless, we feel that further dialogue continues to be necessary primarily because there is still no absolute answer as to how this pandemic can be controlled, either by prevention or by treatment.

We have included in this issue of the *Journal,* therefore, what the HMA has in the way of a synopsis of the law in our State to which the reader can refer while reading Uzych' article entitled **"Hawaii and the AIDS Epidemic."** What the HMA has is the ACLU's **"Summary of Hawaii Law Relating to HIV".**

None of this so far suggests controversy. However, this past 15th Legislative Session included hearings on two important issues: One was whether to legalize the distribution of clean, disposable syringes and needles in exchange for the "dirty" ones used by intravenous drug abusers — this was passed and sent to the Governor for signature. The HMA lobbied hard to get this one passed and it had considerable community support. The other issue concerns testing for HIV in the course of applying for life and other insurance, the denial of which based on a positive HIV test can be socially and economically devasting to the applicant.

One can understand the insurance underwriters' concern with being forced to assume a liability that has almost inevitable consequences on the bad side of their ledgers; everyone's premium payments would have to go up to cover this additional risk in an ever growing number of people still in the minority of the entire population. We know nothing about the industry's profits and would like to believe that that is regulated by our society's government.

On the other hand, our society here in Hawaii has just demonstated a compassion for the healthwise under- and uninsured by promulgating a law — the State Health Insurance Program (SHIP) — to cover their need for medical care.

This leads us to express empathy for our State Insurance Commissioner, Robin Campaniano, who has tried mightily in 8 drafts over the course of 3 years to come up with regulations acceptable to all. Perhaps the task is too herculean to be accomplished at all!

We will not take sides at this point. We leave it up to our readers to ponder the dilemma after they have read and digested the following pronouncement by the Life Foundation dated April 12; we are not certain to what extent it has been disseminated among the profession. We quote all except the last

*(Continued on page 227)* ▶

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paragraph which was hortatory then, but is no longer applicable now:

**Life Foundation Emergency Alert**

In 1987, the Hawaii State Legislature directed Insurance Commissioner, Robin Campaniano, to develop insurance regulations relating to testing for HIV (Human Immunodeficiency Virus), which would fairly balance the profit concerns of the insurance industry with the public policy needs of the citizens of Hawaii. However, 3 years and 8 drafts later, none of the essential moral and economic principles advocated by the Life Foundation and other community groups have been accepted. The insurance industry, assisted by its Mainland legal representatives, has succeeded in having its needs met at the expense of the taxpayers of our State.

If this draft of rules and regulations is approved:

1) It may allow for HIV testing as a requirement for health insurance, as well as group disability and life insurance.

2) It may allow reporting of results with names to the Medical Information Bank (MIB) computer to be shared with other insurance companies, in violation of Hawaii State confidentiality laws.

3) It could prevent you from getting all types of insurance, if you choose not to be tested, even if you are HIV negative.

4) It could make all HIV antibody positive people uninsurable for the entire duration of their lives (up to 20 years and increasing) for all types of insurance. Even though they would be employable, they would need to go on welfare to get any health care.

5) It may make it impossible for all HIV positive people to obtain a mortgage loan for a new business, since an insurance policy is usually required.

6) It may discriminate against private businesses, since a company with an ill employee could experience dramatic rate increases.

7) It may actually promote discrimination by employers. Employers who are required to provide health care benefits under Hawaii's Prepaid Health Care Act, would either bear the financial burden for an uninsurable employee or refuse to hire them.

The reader who is particularly concerned about the issue of discrimination against persons with HIV should read the section on **Law and Medicine** in *JAMA*, April 18, 1990: 263/15 pp 2086-2093 (we are forwarding a copy to Commissioner Campaniano). We quote excerpts pertinent to this editorial's thrust:

> "The Presidential Commission on the HIV epidemic concluded that 'discrimination is impairing this nation's ability to limit the spread of the epidemic.' The absence of adequate safeguards against discrimination undercuts the US Public Health Service strategy of early identification of persons infected with HIV. Case identification (testing, reporting and partner notification) is of growing importance as the benefits of early intervention become clearer. Fears that there will be a breach of confidentiality and subsequent discrimination may discourage individuals from cooperating with vital public health programs."

Then later, under the subheading of **Insurance**:

> *"There is an irresolvable conflict between standard insurance underwriting and nondiscrimination principles* [emphasis ours/Ed]... The industry objective is to discriminate against those with higher risk by charging higher premiums, placing a cap on expenses covered, or refusing to write the policy. If actuarial principles of the insurance industry are fully accepted, then it follows that persons infected with HIV will be treated differently because of the undoubtedly higher risk they incur. The increased risk of infection is greater than the risk associated with smoking, high blood pressure, or other conditions that are taken into account by insurers. The industry, therefore, regards persons infected with HIV as uninsurable, and they do not view this as unlawful discrimination....
>
> "Several states have sought to regulate the insurance industry by limiting the use of HIV testing in making decisions about insurability.... The courts, however, have been highly suspect of such regulation.... The [Massachusetts] court reasoned that the commissioner cannot interfere with an insurer's ability to assess risk...."

As mentioned in a previous editorial, the *Journal* is being encouraged to present medical or medico-socio-economic issues that concern us all, but, hopefully, at the same time presenting both sides of a debate. In the present instance, we have not succeeded in obtaining a reasoned exposition from the insurance industry. Perhaps that will be forthcoming in response to this editorial comment.

J.I. Frederick Reppun MD
Editor

# More on AIDS

In this issue of the *Journal* we have a response to "Pete" Ceccarelli's LTTE (Letter-to-the-Editor) that was published in the April issue this year on the subject of HIV and health care workers, more specifically a defense of Lorraine J. Day MD's speech at the State Capitol on 10 January 1990.

We have previously mentioned the difficulty in matching items of controversy addressed by one author with a response favoring the opposing view, all in the same issue of the *Journal* .

This time we have succeeded, a la *NEJM* and *JAMA*. The happenstance is not so much our doing as it is in the nature of the subject: AIDS. Ceccarelli's defense of Day generated responses from two respected practitioners in our community, each of whom has a leadership role in the approach to the very serious aspects of this "epidemic" of a lethal disease that so far has resisted treatment, much less any hope of cure. We were able to entice "Pete" to submit a rebuttal to his critics; the rest of you readers are most welcome to join this largely intra-professional discussion (we were about to call it a fray!). The more we discuss the subject, the more clarity will evolve.

We would like to call the readers' attention to *Focus: A Guide to AIDS Research and Counseling* published by the AIDS Health Project in San Francisco, and distributed gratis to every physician (we presume) in Hawaii by HMSA. Volume 5 Number 7, June 1990, has a Lead article by Alan R. Lifson MD MPH with imposing credentials, on the subject: "Update on HIV Transmission." It goes well with our LTTE entries.

*(Continued)* ▶

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| | Audi V8 | BMW 535i | Infiniti Q45 | Lexus LS 400 | Mercedes 300E |
|---|---|---|---|---|---|
| ENGINE | 3 | 7 | 11 | 10 | 3 |
| TRANSMISSION | 5 | 4 | 9 | 9 | 1 |
| RIDE | 1 | 5 | 5 | 10 | 5 |
| HANDLING | 9 | 7 | 6 | 8 | 6 |
| NVH (Quietness) | 1 | 6 | 6 | 14 | 6 |
| EXTERIOR | 4 | 9 | 4 | 7 | 4 |
| INTERIOR | 3 | 7 | 5 | 7 | 5 |
| COMFORT | 2 | 5 | 7 | 9 | 5 |
| ENTHUSIAST'S CAR | 9 | 10 | 5 | 7 | 5 |
| BEST VALUE | 3 | 4 | 5 | 9 | 3 |
| **TOTAL** | **40** | **64** | **63** | **90** | **43** |

*Subjective scoring reprinted from Automobile Magazine, Nov. 1989. A total of 300 points were allocated among the editors and spent freely as each saw fit.*



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To set a sort of frame around the AIDS picture currently painted, please note the table in that *Focus*, the source of which is the CDC report of April 1990. The Reported AIDS Cases by Mode of Transmission total 128,319 of which 126,127 are in the adult/adolescent category. Sixty percent of these come from the male homosexual/bisexual category (75,853), followed by i.v. drug-user women and heterosexual men 26,883 (21%); male homosexual/bisexual contact and drug-users comprise a much lower 7% or 8,711 and heterosexual contacts make up 5% or 6,231.

Perhaps all our readers have also, coincidentally, received in the mails a first-time, slick, Searle & Co., throwaway brochure in bright red: *DOCTOR*. Its front features Dr Lorraine Day!

J.I. Frederick Reppun MD
Editor




# Mandatory testing

To the Editor:

As chair of the HMA's Ad Hoc Committee on AIDS, I cannot resist giving a response to Dr Ceccarelli's letter in the April issue of the *Journal*.

Ceccarelli lauds Dr Lorraine Day's "investigations" on human immunodeficiency virus (HIV). Day's investigations include collecting sensational media articles and extracting out of context statistics from journals. Her analysis of information about the HIV epidemic unfortunately reflects deep-rooted attitudes and prejudices within our profession. Advocacy of occupational safety with reference to HIV exposure is important, but physicians also have a responsibility to be educated about HIV, the epidemic and its medical and social consequences, both for the sake of our patients and the community at large. Epidemiologic studies indicate that the measures which Day calls for are excessive. Even worse, her message adds to the sensationalism that often accompanies information given to the public about the HIV epidemic.

Ceccarelli proposes mandatory HIV testing, but this will not affect the impact of the epidemic at all. No public health organization calls for mandatory testing for HIV nor for any other sexually transmitted disease. We physicians, through the American Medical Association's recommendation for mandatory HIV testing of certain groups, including immigrants, military recruits and prisoners, are incommensurate with public health officials in this regard. Public health officials are well aware of the negative impact of mandatory testing on health conditions associated with ostracism in eg plague, leprosy, syphilis and drugs. Other ostracism drives those likely to be infected away from the health care system and may lead to a further spread of the epidemic.

HIV antibody testing, especially of individuals who have been practicing behaviors that lead to high risk, is very important. From a medical standpoint, HIV antibody-testing is critical to offering effective therapy with Zidovudine during early asymptomatic stages of infection and to evaluate asymptomatic patients for associated conditions (eg tuberculous infection and hepatitis B) for which prophylactic intervention can be effective while the immune system is still healthy. It is incumbent upon physicians to communicate the medical need for HIV antibody testing to patients who have a history of high-risk behavior. However, one must be well aware that patients' fear of testing usually arises from the very real possibility of being discriminated against when it comes to insurance, employment and housing. We physicians have a responsibility to work as well for the end of all intolerance.

The termination of discrimination against people infected with HIV must begin with our profession.

In a few short generations, we seem to have forgotten that our colleagues of earlier times also were threatened with contracting fatal infections through the caring of their patients. Ceccarelli wants us to believe that occupational risk of infection to and by health care providers from HIV is higher than the risk of infection from a voluntary activity such as anal intercourse. This is a false comparison. We calculate that the risk of infection from an accidental needlestick is the product of the risk of a needlestick by the fraction of sticks in which the needle is contaminated with infected blood, and the risk that a needlestick will transmit infection. Occupational exposures, such as needlesticks, contamination of wounds by secretions, and laboratory spills are accidents which are, by definition, preventable. Physicians cannot avoid all risk and still fulfill professional obligations; but it is prudent, however, to minimize risk as much as possible.

Force-testing reluctant exposers will do nothing to solve occupational risk. Neither will Day's belief that there are hidden dangers of HIV transmission in operating and emergency rooms. Aside from speculating about the possibility of infection in these settings, she did not cite actual cases. Similar to the physicians' use of ineffective masks during early times of plague epidemics, Day leads the way in using heavy protective garb even when the evidence indicates that occupational infection occurs primarily only as the result of penetrating injuries. We must be attentive to technique in order to protect us

*(Continued)* ▶

from and to care for penetrating injuries, and especially in orthopedic surgery must it be conducted safely.

The Hawaii Medical Association Ad Hoc AIDS Committee advocates a systematic response to the possibility of occupational infection by HIV, including attention to infection control training for anyone with an occupational exposure to risk; the development and enforcement of confidential incident reporting; the evaluation of post-exposure counseling, testing, treatment and prophylaxis; the access to disability insurance and workers compensation; the protection of health professional trainees; and the treatment of infected health care professionals without discriminating against them.

There has been no evidence of transmission of HIV from an infected health care provider to a patient. Nevertheless, no health care organization has taken a position on the continued employment of infected health care workers. This topic is also being discussed by the AIDS Committee. The Committee intends to develop model guidelines regarding all aspects of HIV occupational risk for use by our members and the State's health care community. There has already been much good work done nationally from which to draw knowledge; we are interested in learning our members' experiences, also.

Kim Marie Thorburn MD
Chair, HMA AIDS Ad Hoc Committee

# Life Foundation responds

To the Editor:

This letter is in response to Dr Frank E. Ceccarelli's letter to the editor in the April 1990 issue of the *Journal* concerning Dr Lorraine Day's "scientific lecture" on January 10, 1990. As President of the Board of Directors of the Life Foundation, a member of HMA, and one of the "very vocal in decrying her message," I feel obligated to respond to the points raised in the letter, and more importantly, to present the facts not included in Ceccarelli's letter.

The majority of the large crowd that heard her speak was there to disagree with Day, not to support her, as Ceccarelli maintains. This was evidenced by the heated exchanges which followed her "lecture." Interestingly, the highly political positions assumed by Day were preceded by a disclaimer that she had no political position on the epidemic. She then proceeded to condemn the entire gay community for intentionally spreading the AIDS virus on unsuspecting partners. The majority of Day's talk focused on presenting hysterical misrepresentations of the facts regarding the transmission of the AIDS virus.

A great deal of time was spent addressing laboratory studies looking for the presence of virus in sweat, saliva, tears, etc. However, Day totally ignored the vast amount of data which shows that HIV transmission *does not* occur by casual transmission. Day played on fear, and abused the privilege of her position as a physician. Day stated that she would withdraw her children from school if an HIV-infected child were in their class. This is directly opposite the current Department of Education policy in Hawaii. She continued to fuel the fires of prejudice and discrimination by hypothetical, abstract situations and inappropriate metaphors.

Some of the specific distortions presented by Dr Day in this lecture to lay persons, included the statement that many of the doctors who formulate policy at the Centers for Disease Control (CDC) never stepped into an operating room during their medical training. It is a fact that every physician spends a significant amount of time in the operating room during training. However, by telling lay persons this lie, she added hysteria to an already emotionally charged issue. Day feels that no physician should practice if infected, and stated that surgeons do cut themselves "and drip blood into the patient." As a surgeon, I cannot recall such a situation occurring in my career!

Day neglected to tell her audience that surgeons who have hepatitis B (which is estimated to be 100 times easier to transmit than HIV and is also a potentially fatal infection) have always been allowed to operate (even those who are chronic viral carriers) and that there is not a single case to my knowledge, of a surgeon-to-patient transmission of hepatitis B. Why did she not tell that to her audience?

Dr Day is a major advocate of *mandatory* testing for HIV of both patient and physician prior to treatment contact. She, herself, however, admitted that she treats patients "differently" if they do not take the HIV test. Her lack of logic and distortion of the facts may be best exemplified by the opposite position: That everyone should be tested. Then she says the test is unreliable because 33% remain antibody-negative for three and a half years (incorrect data presented by Day). Her statement is based on a small study of high-risk men which was discounted by the CDC and by other experts as well, and many other studies none of which were quoted by her. Why did Day not tell that to her audience?

Dr Day claimed that many gay people are irresponsible and intentionally infect other people. The data that she used to support this claim is that the number of AIDS cases are still increasing in the gay community. Day should know that current AIDS cases reflect infection which occurred 10-15 years ago, when the government failed to fund preventive educational programs. What she did not tell the audience was that the number of new sexually transmitted diseases in the gay community has dropped dramatically, thanks to the educational programs of private AIDS agencies across the country. These data show that gay people are practicing safe sex, whereas sexually transmitted diseases in heterosexual groups continue to increase at an alarming rate! Why does Day so intentionally misrepresent the facts?

Prior to Dr Day's talk, the Life Foundation of Hawaii approached her sponsors, the Hawaii Federation of Physicians and Dentists. We requested that since the talk was being held at the State Capitol and because Day is so controversial, that a responsible member representing the Life Foundation be allowed to speak and to address the above concerns. We were turned down flatly. This was in large part the reason Senator Levin *did not* "sponsor" the event, as was wrongly advertised in the flyers before the meeting.

When Day spoke at the Hawaii Orthopedic Association meeting in May 1989 at Turtle Bay, I was allowed to speak on the same program and that resulted in a much more balanced presentation.

Day did raise concerns regarding the safety of the operating room environment. However, these concerns sadly got lost in the misinformation and prejudice that she expressed.

The local media are well-educated on AIDS; they weighed

*(Continued on page 266)* ▶



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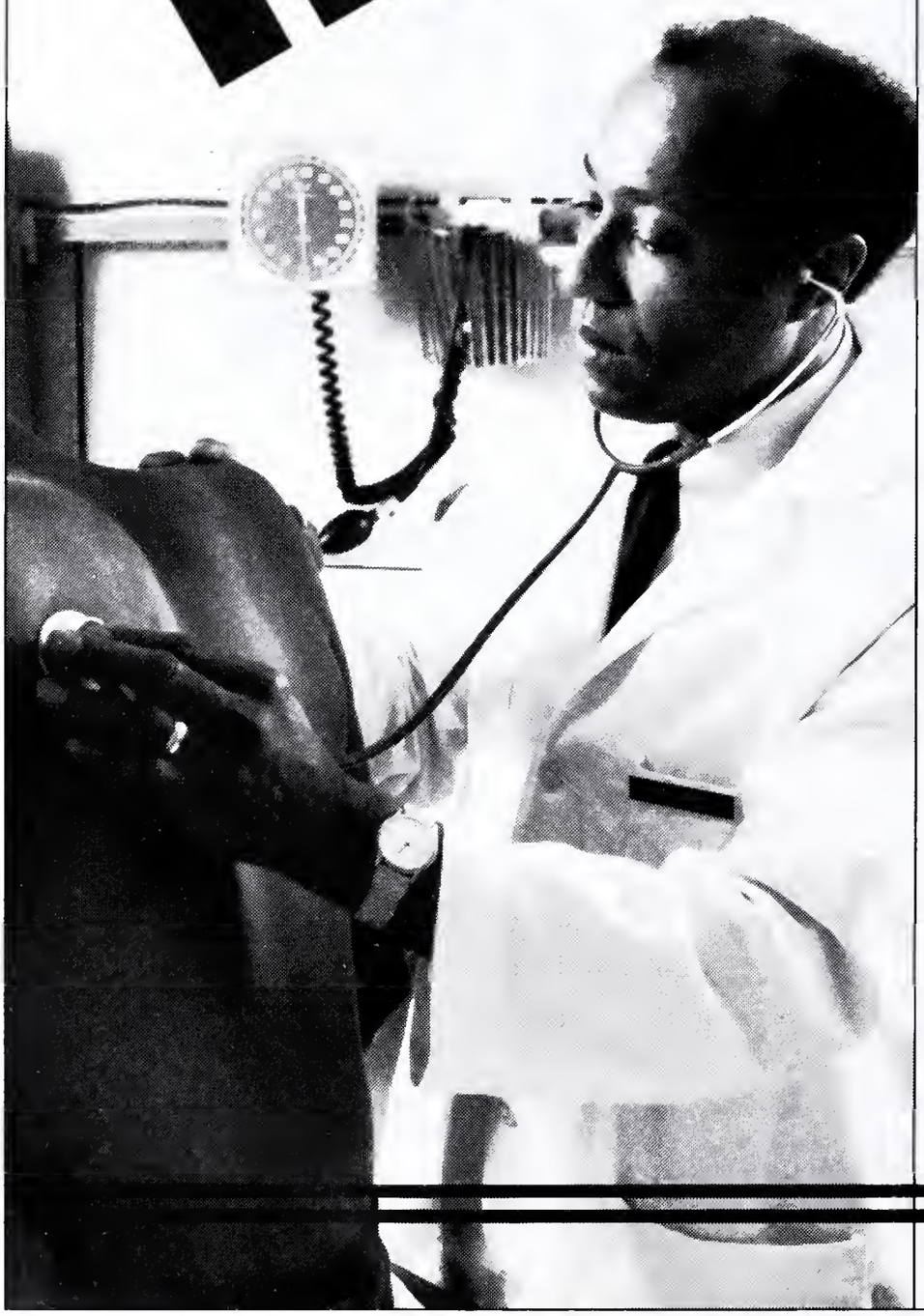
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AIR FORCE

# Hawaii and the AIDS epidemic

Leo Uzych JD MPH

*Hawaii has enacted legislation pertaining to the AIDS epidemic. This legislation pertains to such areas as HIV testing, informed consent for testing, confidentiality of HIV-related data, quality assurance standards for HIV testing, and requirements pertaining to insurance availability. Physicians in the State should be aware of these legal requirements, particularly as they may affect medical practice in the state[a].*

This article will discuss AIDS-related legislation now in force in Hawaii, particularly in the context of how such legislation may affect Hawaii physicians. The law in Hawaii presently imposes specific requirements concerning informed consent for testing for the Human Immunodeficiency Virus (HIV) that causes AIDS. In general, the law states that no health-care provider, blood bank, plasma center, or other public or private agency, institution or person may subject a person's body fluids or tissue to HIV testing, unless the individual involved first provides "informed written consent" to the testing.[1]

Some specific exceptions to the usual and customary statutory requirements for prior informed written consent have been carved out.[1] As an example, consent to testing is not required for *anonymous* testing carried out at HIV test sites established by the Department of Health provided that "informed verbal consent" is obtained. Also, informed consent to testing is not required where a patient is "unable" to give consent and it is determined by the patient's treating physician that it is necessary to establish the patient's HIV status, "necessary" either to "make a diagnosis" or to determine an "appropriate" course of treatment for the patient. However, the patient shall be informed in "timely manner" that a test for the presence of HIV has been performed and the patient, additionally, shall be provided the opportunity to obtain the test results and "appropriate counseling."

A further exception to the usual statutory requirement for informed written consent prior to HIV testing concerns the protection of health-care workers. According to the law, a treating physician may order an HIV test without the patient's informed consent if the physician has determined that the patient is "incapable" of giving consent prior to treatment, or when there is "reason to believe" that the "safety" of a health worker may be "affected" due to exposure to the blood or bodily fluids of a patient suspected of possible HIV infection. The patient and the health-care worker shall be informed in a "timely" manner that a test for the presence of HIV has been performed, and the patient and the health-care worker shall be provided the opportunity to obtain test results and "appropriate counseling."

The informed consent for testing provision of the Hawaii Revised Statutes further provides that any person in the State whose body fluids or tissue are subject to HIV testing shall be afforded the opportunity to receive "HIV counseling" by the party ordering or requesting that the test be performed and shall as well be afforded the opportunity to obtain the test results.[1] The opportunity to receive counseling shall be afforded both prior to obtaining a sample for HIV testing and upon disclosure of test results, regardless of the serostatus of the tested individual.

State lawmakers have acted wisely in being closely attentive to counseling services for persons being tested for HIV infection. Information drawn from the published literature indicates that significant adjustment problems may have to be addressed by some HIV-seropositive persons.[2] Counseling, more generally, may serve as a valuable part of special outreach programs intended to provide outreach education, risk education counseling, anonymous HIV testing and counseling, and, when appropriate, referral for medical evaluation and support services.

Adequate protection of the privacy and confidentiality of data collected from HIV testing has great practical importance. Because HIV infection cannot be spread by casual contact, there is no proper medical basis to discriminate against persons infected with the AIDS virus.[3] At a practical level, however, lack of public confidence in the confidentiality of HIV testing data may drive many persons to avoid testing, diagnosis and treatment because of fear of severe societal discrimination directed against them if they are known, or even suspected, of being infected with the AIDS virus.[4] The published literature in fact presents information and data showing that mandatory reporting of HIV testing data may deter many from being tested.[5,6]

Statutory law in Hawaii contains requirements affecting the

*(Continued)* ▶

* 103 Canterbury Drive
Wallingford, PA 19086

a — see accompanying Summary Law Relating to HIV prepared by ACLU of Hawaii

confidentiality of HIV-related information and records.[7] In general, the records of any person indicating that the person has HIV infection, AIDS-related complex, or AIDS, and which are held by any state agency, health-care provider, physician, laboratory, blood bank, third party payor or other individual or agency, shall be kept strictly confidential. Release of such records, however, may be permitted under special circumstances specified in the statute. As an example, release of records otherwise protected shall be permitted to "protect" the health, life or well-being of the pertinent person. "Medical emergency" in this context is defined statutorily to mean any disease-related situation which threatens life or limb.[7] Release of otherwise confidential records is also permitted to or by the DoH if "necessary to protect the health and well-being of the general public." Another permissible circumstance for releasing otherwise confidential records is when release is made by the patient's health-care provider to another health-care provider for the purpose of continued care or treatment of the patient.

The part of Hawaii statutory law on the confidentiality of records further states that no person shall be compelled to consent to the release of information protected under the part, or to disclose whether he or she has been tested for the presence of HIV infection in order to obtain or maintain housing, employment or education.[7]

A different section of Hawaii statutory law further addresses unfair discrimination in the context of insurance. Under Hawaii law, refusing to insure, refusing to continue to insure, or limiting the amount of coverage available to a person solely based upon the person's having taken an HIV test prior to applying for insurance constitutes an unfair method of competition and an unfair or deceptive act or practice in the business of insurance.[8]

Quality assurance standards for HIV testing are addressed by state legislation. All laboratories performing screening and diagnostic tests for the presence of the antibody to HIV must follow certain protocols.[9] Any initially reactive Enzyme-linked Immunosorbant Assay ("ELISA") test must be confirmed by a second ELISA. And any sera-yielding reactive results to both ELISA tests must have a supplemental test performed, eg, a Western Blot, an Immunofluorescence Assay, or an antigen detection assay.

Some reporting requirements are specified by Hawaii law that affect physicians. Every physician or health-care professional having a patient "affected by or suspected of being affected" by a disease or condition declared to be communicable or dangerous to the public health by the Director of Health shall report "with personal identifiers" the incidence or suspected incidence of such disease or condition to the DoH.[10] Similarly, every laboratory director having laboratory data regarding a person affected by or suspected of being affected by a disease or condition declared to be communicable or dangerous to the public health shall report such disease or condition to the DoH.[10]

Reports to the DoH of persons who had or have diseases or conditions "transmittable by blood or blood products" may be disclosed by the Department to any blood bank in order to enable it to reject such persons as donors.[11] The Department as well may disclose to any blood bank information on persons "suspected by physical symptoms, clinical examination, or laboratory evidence" of having diseases or conditions transmittable by blood or blood products.

Finally, it is noteworthy that Hawaii's active legislative stance also encompasses the establishing of a Civil Rights Commission empowered in part to investigate complaints concerning alleged discriminatory practices.[12-13]

Especially, until some curative treatment or vaccine for AIDS is uncovered, there should be a strong emphasis on educational measures and preventive programs, targeted particularly at persons falling into high-risk categories for HIV infection.[3] Physicians can, and should, play a key role in this educational approach. Pertinent activities which may potentially be pursued in this vein include offering seminars and formal presentations, developing and distributing pamphlets and brochures pertaining to virus transmission, risk reduction practices, and AIDS-related services, self-education, responding to telephone inquiries, assistance in training persons to conduct AIDS-related educational programs, and help in preparing messages about AIDS for use by the various mechanisms of mass communication such as radio, television and the newspapers.

Hawaii has taken an active legislative stance in response to the challenge of the AIDS epidemic. This activism needs to be continued. Physicians in the State must work cooperatively with lawmakers as they continue to work on laws intended to respond effectively to the ever-changing contours of the AIDS epidemic. ■

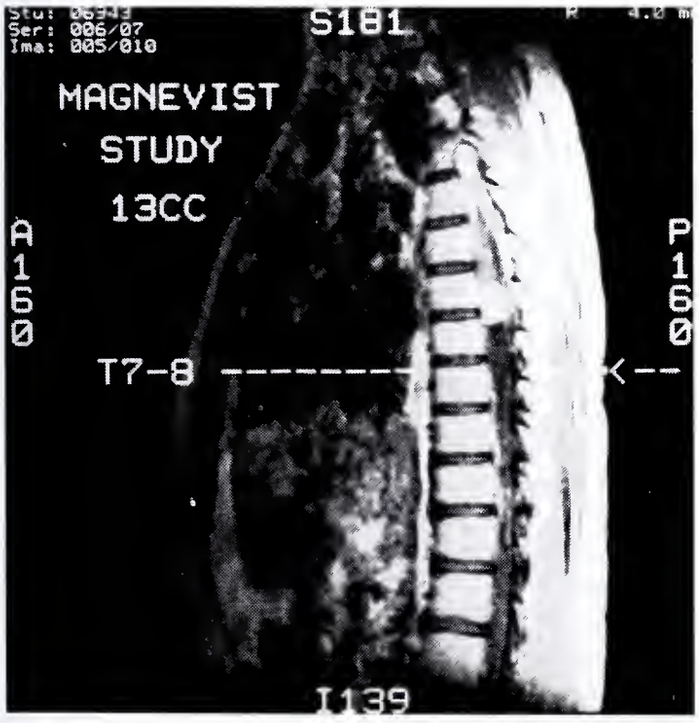
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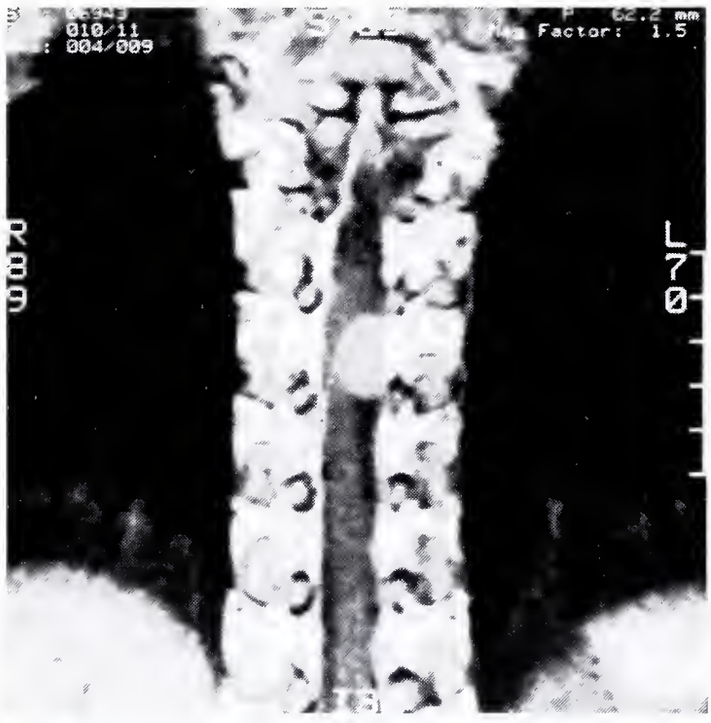
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9. Hawaii Revised Statutes, §325-17, Quality assurance standards for HIV-antibody testing.
10. Hawaii Revised Statutes, §325-2, Physicians, laboratory directors, and health care professionals to report.
11. Hawaii Revised Statutes, §325-4, Identity of patients safeguarded.
12. Hawaii Revised Statutes, §368-2, Civil Rights Commission established.
13. Hawaii Revised Statutes, §368-3, Powers and functions of commission.

# MRI CASE OF THE MONTH

## NEUROFIBROMA

**Clinical History:** Fourteen year old female with six month history of back pain and one month of lower extremity progressive paralysis, left greater than right.




**Findings:** An ovoid mass is present in the spinal canal at T6-7. The bright signal intensity of the mass is due to contrast enhancement with gadolinium-DTPA. The coronal sequence demonstrates the intradural-extramedullary location of the mass. It lies to the left of the spinal cord and compresses the cord.

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# Summary of Hawaii Law Relating to HIV

(Including Amendments of the 1989 Hawaii Legislature)
Prepared by the American Civil Liberties Union of Hawaii

## CONFIDENTIALITY & TESTING

**Confidentiality (H.R.S. § 325-101 to 325-104)**

Protects the confidentiality of all information relating to HIV seropositivity. Applies to *all* written and verbal records and communications of public *and private* persons or agencies. Release of information is not permitted without the written consent of the individual that clearly specifies the information to be released and to whom the information is to be released. Exceptions to the consent requirements are permitted (1) for blind epidemiological or statistical purposes, (2) in a medical emergency to protect the patient, (3) for release by the department of health to targeted agencies, (4) for insurance reimbursement, (5) between health care providers (for continued treatment), (6) to the department of health to protect public health, and (7) by court order upon a showing of good cause. An individual cannot be forced to consent to the release of HIV related information for purposes related to housing, employment or education.

**Informed Consent (H.R.S. § 325-16)**

Requires that before any person may be tested for HIV in Hawaii, the person must provide written consent to the *specific* HIV test (no blanket consent) and must be explained the ramifications of an HIV test. The person must be given the opportunity to receive pre- and post-test counseling as well as the test results. Exceptions to the consent requirement are permitted (1) for anatomical gifts, (2) for blind research studies, (3) where the patient is physically or mentally unable to give consent and the treating physician determines testing is medically necessary to protect the *patient* (provided the patient is later told that the testing has been done), and (4) where the patient is physically or mentally unable to give consent and the treating physician determines that the health and safety of a *health care worker* may be affected as a result of exposure to HIV.

**Reporting (H.R.S. § 325-1 & 325-2)**

Empowers the director of health to designate by administrative rule the communicable diseases that must be reported with personal identifiers to the department of health by health care professionals. Diagnosed cases of AIDS are reportable by administrative rule to the department of health with personal identifiers.

## DISCRIMINATION

**Insurance (H.R.S. § 431:113-103(a)(7)(G) & (H)**

No insurance company doing business in Hawaii may deny or discontinue insurance based on *prior* HIV testing. Insurance companies may *prospectively* require insurance applicants to undergo HIV testing provided that the testing complies with the confidentiality and informed consent laws. Insurance companies must inform the applicant that an HIV test has been performed and give the person access to the test results.

**Housing (H.R.S § 515-3 et seq.)**

Sellers and landlords are prohibited from discriminating against a person in the sale or rental of housing based on HIV infection or requiring the person to submit to an HIV test. Financial institutions are prohibited from denying mortgages based on HIV infection.

**Employment (H.R.S. § 378-2)**

Prohibits private and public employers in Hawaii from discriminating against any person based on a physical handicap (which includes a diagnosis of AIDS and arguably includes HIV seropositivity.)

**State Contractors (H.R.S. § 368-1)**

Prohibits state programs or private programs receiving state financial assistance from discriminating based on an actual handicap (HIV infection) or a perceived handicap (a belief that the person is HIV infected).

**Public Accommodations (H.R.S. § 489-3)**

Prohibits private businesses from denying or limiting services to clients or customers based on a physical handicap (including HIV infection).

# An Update on the Pathogenesis of Atherosclerosis
## (Principles of Prevention, Intervention, Retardation, and Regression)

Robert W. Wissler PhD MD*
and Dragoslava Vesselinovitch DVM MS

*The major life-threatening ischemic events in heart and brain are precipitated by the plaque. Thrombosis in the muscular arteries and rupture of the large elastic arteries usually follows fracture or ulceration of the plaque's fibrous cap.*

*The smooth muscle cell (SMC) participates in many aspects of the atherosclerotic process: lipid uptake, synthesis of plaque components, and cell proliferation. The latter is a particularly significant aspect of the disease.*

*High serum cholesterol levels stimulate proliferation of arterial medical cells; lower-density lipoproteins (LDL and B-VLDL) induce ingress and storage of cholesteryl ester in the arterial intima. These effects are inhibited by high-density lipoproteins (HDL). Endothelial injury may be an important part of the pathogenesis of some atherosclerotic plaques because powerful growth factors liberated from circulating monocytes, injured endothelial cells, and platelets, actively stimulate SMC proliferation, even when other risk factors are absent.*

### Introduction

Utilization of animal models of atherosclerosis, especially nonhuman primate models, has led to great progress in understanding this disease process. In controlled feeding experiments, severe atherosclerosis has been produced in rhesus monkeys by means of a high fat, high cholesterol diet. Animals then placed on a low fat, low cholesterol diet, or given cholestyramine plus probucol, or a combination of these two approaches, showed a remarkable decrease in the size of their atherosclerotic plaques.

Many epidemologic studies, as well as more recent prospective intervention studies involving low fat, low cholesterol diets and bile acid sequestrants, indicate by imaging techniques that plaque regression takes place in humans.

Typical atherosclerosis cannot be developed in the human or experimental animal unless there is definite hyperlipoproteinemia and/or dyslipoproteinemia. The other major risk factors — cigarette smoking and hypertension — do not seem to support the progression of the plaque in the absence of this primary lipid derangement.

In a way this simplifies the problem of preventing, retarding or reversing the space-occupying atherosclerotic plaque which constitutes the unit lesion. This progressively enlarging plaque is responsible for the high mortality and morbidity that make this disease process so dangerous. The toll taken by ischemic heart and ischemic brain disease, as well as the serious consequences of peripheral vascular disease (mostly femoral and iliac arteries) and the life-threatening weakening of the aortic wall, are all due to the same fundamental disease process, namely advanced atherosclerosis.

This brief overview will summarize the nature of the atherosclerotic plaque as we now understand it. Some of the newer pathobiological processes that seem to control the progression of this lesion, and some of the experimental animal studies that have demonstrated directly both the pathogenesis and the reversibility of the advanced plaque, will be covered.

Finally, some of the evidence from studies in human subjects indicating the directions this field of research is taking in relation to prevention, retardation and regression of the disease process will be mentioned. (For a recent, more complete review, see reference 1).

### Major Components of the Advanced Atherosclerotic Plaque and Their Functions

The 2 major components of the plaque are the soft grumous center, which is rich in cholesteryl esters and from which this disease gets part of its name (athera, a Greek stem meaning gruel or porridge), and the fibrous cap that overlies this soft center of the advanced plaque and is reflected by the term sclerosis. If one considers these 2 components — the necrotic center, or atheroma, and the fibrous cap — in modern cellular and biochemical terms and in terms of how the clinical effects are produced, then it is important to note that the fibrous cap consists largely of smooth muscle cells and their products, including fibrous tissue. Smooth muscle cells (SMC) of the plaque and in many other sites in the body can synthesize collagen-, elastin-, and carbohydrate-containing proteins, the proteoglycans. The firm part of these lesions results from collagen produced by SMC. These cells frequently contain lipid droplets, and there is frequently abundant lipid deposition be-

(Continued) ▶

*Distinguished Service Professor and Program Director
Multicenter Cooperative Study of the Pathobiological Determinants of Atherosclerosis in Youth and the Department of Pathology, The University of Chicago Medical Center, Chicago, Illnois.

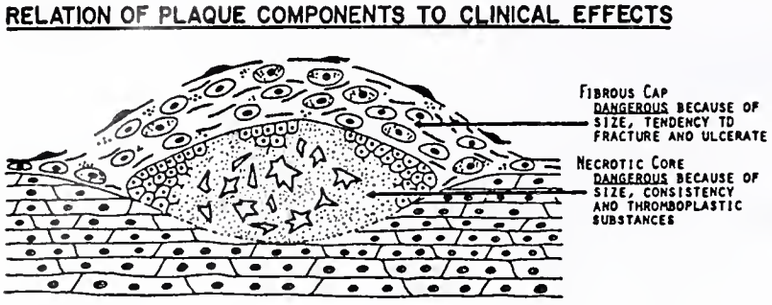



**Fig. 1:** Characteristics of the advanced plaque that account for its clinical effects in medium-sized (muscular) arteries (modified from figure 34-4B in reference 1).

tween these cells. Although the relative amounts of the 2 major anatomical components, the necrotic cholesteryl ester-rich core and fibrous cap, can vary greatly, both are almost always present in substantial amounts.

The major clinical and pathobiological events that make the plaque life-threatening are thrombosis in the muscular arteries (coronaries, carotids, iliacs, femorals, etc.) and rupture of the large elastic arteries, especially the abdominal aorta. Fracture or ulceration of the fibrous cap plus the extensive endothelial damage that almost inevitably is associated with the advanced plaque, not only enhances the possibility of acute occlusive thrombosis in the medium-sized arteries, but also represents a strong stimulant to further progression. The space-occupying character of the plaque, which is also often accompanied by stenosis of the lumen of the artery and turbulence of blood flow, also makes thrombosis more likely (Fig. 1).

### Emerging Pathobiology of Atherosclerosis

Many modern methodologies have demonstrated that the SMC is the major cell of the atherosclerotic process. This has led to a unitary hypothesis, because this cell appears to contribute to almost all of the major features of the plaque: It takes up lipid, which is an important part of the atherosclerotic process, and probably the initial event; it synthesizes the fibrous components of the plaque, and it proliferates.

Additional work has firmly established that the lipid and cholesterol in the necrotic core of the plaque come from the blood, mostly in the form of so-called low-density lipoproteins (LDL and VLDL). A corollary of this is that there must be some kind of mechanism that is trapping or preferentially localizing these LDLs in the artery wall.

It has also become evident that some of the high-density lipoprotein (HDL) molecules appear to have a protective function. They can carry cholesterol out of peripheral tissues, such as arteries, and transport it back to the liver, where it can be secreted back into the bile and some of it excreted.

As we have learned more about the SMCs in the plaque, and more about the functions of lipid in the plasma, it has become evident that these LDL molecules from hyperlipidemic plasma (H-LDL) stimulate excess arterial SMC proliferation, and also induce excessive ingress and storage of cholesteryl esters in these arterial SMCs[2]. The lower-density lipoproteins, especially the LDL from hyperlipidemic sera, can also lead to SMC injury and an increase in the rate of cell death, which may be one of the major contributors to the formation of the necrotic core. Most recently this has been found to be related to the effects of oxidized LDL in the arterial intima[3].

Some cases of severe atherosclerosis, which develop even though the blood levels of LDL are low, or in which there is no history of cigarette smoking or high blood pressure — 2 of the 3 major risk factors that have been identified — may represent individuals who have a severe and continuous chronic endothelial injury, which leads to a unique and accelerated form of atherosclerotic risk, even in the absence of elevated levels of lipid[4].

The presence of chronically circulating immune complexes is one of the conditions that can support the development of this type of exceptional atherogenesis. It leads to an accelerated development of transmural and concentric lesions. These differ substantially in their histopathological appearance and functional effects from the usual eccentric and largely intimal disease that we find in the medium-sized muscular arteries under conditions of chronic hypercholesterolemia.

Although much more needs to be learned about this deviation from the usual pathogenesis, it appears at present that this type of disease develops occasionally in human subjects, that it is likely to produce a lesion in which it is difficult to demonstrate favorable and beneficial regression, and that this type of atherosclerosis is probably more likely to develop thrombosis (Fig. 2).

We are now beginning to think about atherosclerosis much more in terms of cell interaction — interaction among cells, but also interaction of cells with hyperlipidemic LDL. The main target cell is the SMC. There are many possible interactions, and we are just beginning to learn more about them — about the interactions of monocytes with endothelial cells, of macrophages as well as platelets with SMC, and of smooth muscle cells with both macrophages and endothelial cells.

The proliferation of SMCs in the plaque may originate as a mutation from a single cell, according to the monoclonal hypothesis developed by Dr Earl Benditt. Or, as the Drs Campbell have reported, their growth may be a special kind of hyperplasia, which is probably reversible. Their highly synthetic and "phenotypically modulated" features indicate that these cells are much more sensitive to certain kinds of stimuli that accompany atherogenesis.

The Nobel Prize-winning work of Goldstein and Brown has helped us to understand and appreciate what happens to cholesterol as it approaches a cell in the form of LDL. It has opened up a whole new field of cell surface receptors, relevant to regulation of cholesterol uptake and cholesterol involvement in membrane formation in the cell. These are highly significant new concepts in relation to both cell metabolism and atherogenesis.

Most recently, the fundamental work on atherogenesis has been enriched by the discovery of a number of genetically induced abnormalities in several of the apoproteins of the lipoproteins. Several of these have already been demonstrated to have special atherogenic effects, which may explain some of the previously poorly understood "hyper-" and "hyporesponders" to hypercholesterolemia.

### Experimental Atherosclerosis and the Regression of Lesions

The experimental model is of special importance in the study of atherosclerosis. In fact, it is probably one of the best

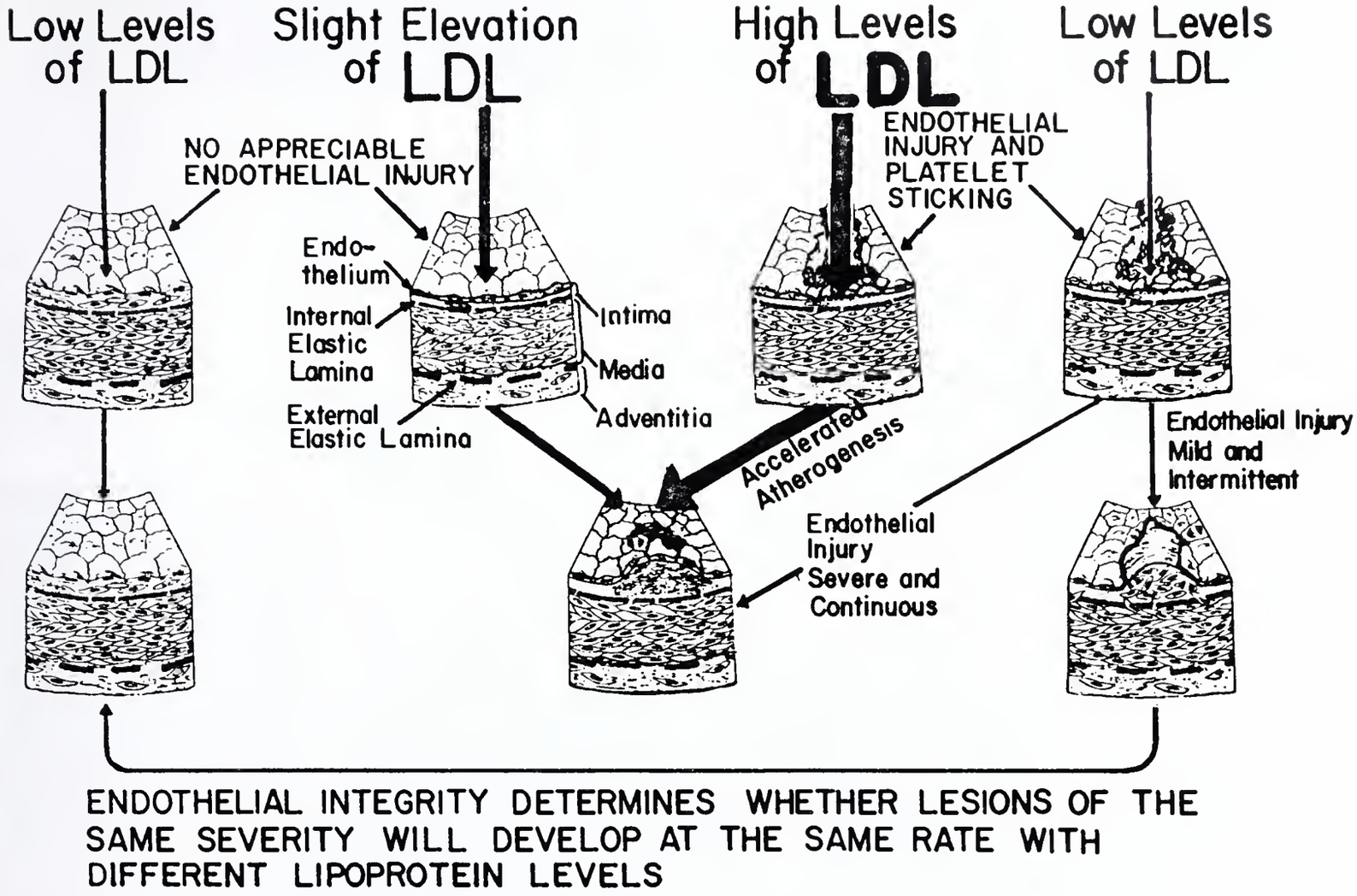



Fig. 2: Presumed pathways of interaction between elevated levels of low-density lipoprotein and arterial endothelial injury to produce a progressive atherosclerotic plaque. Although in extreme instances of continuous and severe endothelial damage progressive plaque formation can occur even when the low-density lipoprotein levels are low (extreme right), this does not negate the protective effect of low levels of low-density lipoproteins if the endothelium is not being damaged severely (extreme left) or is damaged slightly and not very often. The accelerated atherogenesis frequently observed when familial hypercholesterolemia is present in its heterozygous or homozygous form is represented (second from right), whereas the usual slow pathogenesis resulting in the same kind of progressive atherosclerosis over a period of decades is shown second from the left. (Modified from Wissler RW: Atherosclerosis: A preventable and potentially reversible disease process. In Morin RJ and Bing RJ (eds): "Frontiers in Medicine. Implications for the Future" New York: Human Sciences Press, Inc., 1985, pp. 19-46).

examples of how our knowledge of chronic human disease can be improved by animal studies.

Atherosclerosis is a disease process that is virtually impossible to study adequately at the arterial lesion level in living human subjects. The plaques develop very gradually over a period of many years, so that it is difficult to relate environmental and physiological factors, including nutrition, to their development in an individual, symptom-free, living person. Furthermore, it is very difficult to attain anything approaching controlled conditions in the study of this disease in human volunteers, and it is still hard to quantitate the severity of the plaques until they begin to produce their clinical effects. Perhaps we are progressing to the point where this will no longer be true, but right now it is very difficult to evaluate the danger of a plaque in the living, symptom-free human subject.

The primate experimental model in *Macaca mulatta*, developed in Chicago by Dr Bruce Taylor and colleagues, has proven to be one of the most useful models of human atherosclerosis. If coconut oil is added to their dietary regimen, advanced plaques are induced that have essentially all of the pathobiological characteristics and clinical effects that we see in human atherosclerosis. If we look at the aorta, the carotid, and the coronary arteries after 9 months of feeding this diet, we can observe the development of very large lesions, with artery lumens severely narrowed by the eccentric, largely intimal, advanced plaques with their grumous centers and fibrous caps of typical atherosclerotic plaques[5].

In our studies, we have used a period of about 12 to 14 months for producing severe atherosclerosis in animals, at which point one group is autopsied and used as a reference in terms of severity of lesions. Of the remaining groups, one is maintained on the atherogenic diet in order that we could follow the continued progression of the disease in an untreated group.

The methods of treatment we have used are a low-fat, low-cholesterol diet and the same diet the cholestyramine. In some

*(Continued)* ▶

studies, the atherogenic diet was continued but with cholestyramine or probucol added to it. These drugs are the safest and most reliable intervention agents we have available. The plasma cholesterol levels in the diet-plus-drug treatment groups decreased to about where they were at the beginning of the study, ie, to about 150 mg/dl, which in rhesus monkeys and in people is a basal level that can usually be sustained for years without atherosclerosis developing[6].

We have developed and used many chemical and morphometric methods of quantitating the results from these kinds of experiments. Grossly, one can get a good idea of the extent of disease using a point-counting approach. This indicates that the extensive disease in the reference groups, with about 66% of the intimal surface involved, goes up to more than 80% in the group maintained on the high-fat, high-cholesterol diet for the second year, while in those treated with the low-fat, low-cholesterol diet combined with cholestyramine, the percentage has been reduced to about 10% of the total intimal surface. This is about one-sixth the severity of disease that existed before treatment was instituted.

If one treats the animals with diet alone, one gets about half the maximal effect, and about 20% of the intimal surface is still involved. If one treats with cholestyramine and/or probucol alone, intermediate results are obtained, an impressive reduction when one considers that the atherogenic ration is continued and the serum lipids did not return to baseline levels.

All of these methods of treatment, therefore, appear to be effective in terms of reducing the severity and the extent of the disease process. More recently, we have been using a much more replicable and faster, computer-assisted digitizing apparatus for performing these kinds of microscopic component analyses. If quantitation is carried out in this way, and if one measures the percent of total lipid in the lesion, the intimal thickness of the lesion and the luminal narrowing produced in coronary arteries, beneficial effects are remarkable. Established lesions show substantial improvement in each of these important parameters, following therapy with the low-fat diet and cholestyramine, and to a lesser extent with the low-fat diet alone or by adding cholestyramine or probucol to the atherogenic diet. These morphometric approaches are useful, therefore, in showing that atherosclerosis in this experimental model can be reversed at the artery wall level, something very difficult to do in people (Fig. 3).

Scanning electron microscopic studies in collaboration with Professor Giorgio Weber and colleagues in Siena have revealed that, after 12 months of therapy, the severely ulcerated endothelium is largely restored to its previous degree of integrity. In later studies, this appears to be a rather prompt effect. The cell proliferation component of atherogenesis can be evaluated by exposing the aortic lesions to tritiated thymidine at the time the tissues are removed from the animal. This yields data which approximate the rate of cell proliferation in these lesions. Convincing evidence has been reported indicating that the high rate of cell proliferation observed in the plaques when the animals are being fed an atherogenic diet is reduced remarkably by lowering the plasma lipids, a trend that we have recently confirmed.

### Can Regression Occur in Human Plaques?

An important question is whether or not bile acid sequestering agents can reverse human atherosclerotic lesions. Several studies indicate that lowered blood lipids produce a large reduction both in coronary heart disease deaths and in total mortality in men who have already had previous clinical coronary events. This effort was also predicted in an older study on human atherosclerotic plaque regression, using autopsy data from Finland. Age- and sex-matched individuals were compared at autopsy; complicated plaques decreased substantially when there was a period of severe limitation of fat in the diet during World War II. According to a recent review of the results of this study by Dr Rene Malinow, the fatty streaks did not decrease very much, but the necrotic cores of the lesions decreased very significantly[7]: see pp. 202 and following.

The best study of this kind in the United States was done by the great New York pathologist Sigmund Wilens when he was at New York University; it, too, indicated that wasting disease of any kind, with terminal weight loss, was likely to lead to a rather marked reduction of atherosclerotic lesions in both the coronary arteries and aorta, and that the wasting disease is characterized by a reduction in lipid deposits in those lesions.

Dr David Blankenhorn in Los Angeles has been developing modern approaches which can measure the degree of change

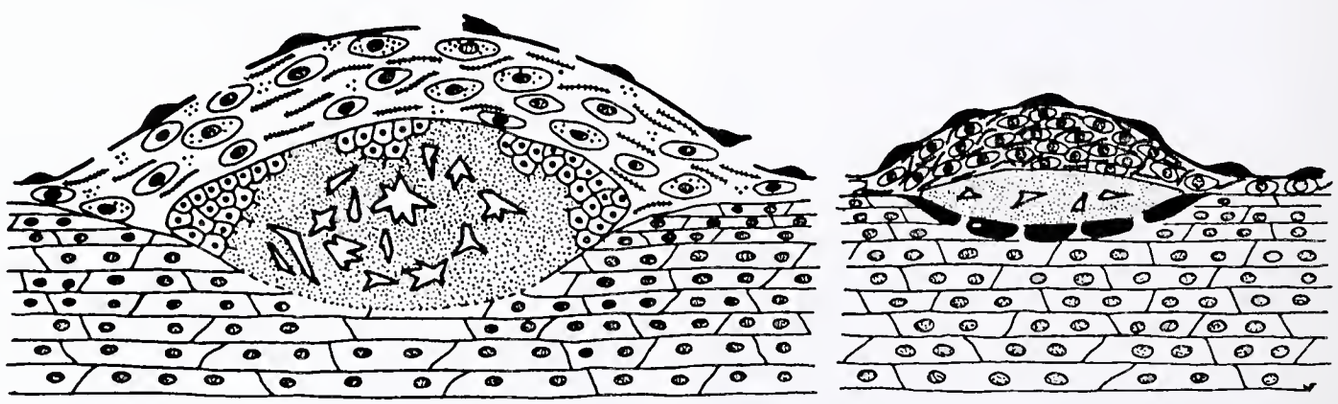


Fig. 3: Changes reported to occur during regression of advanced atheromatous lesions in rhesus monkey and swine models. The plaques become substantially smaller, and both the fibrous cap and the components of the necrotic center decrease in size. Intracellular lipid virtually disappears, and extracellular lipid decreases. The collagen and elastin condense and remodel themselves to fit the smaller lesion. The endothelial damage heals, and the elevated mitotic rate of the smooth muscle cells in the plaque is remarkably decreased.

*(Continued on page 261)* ▶

# Financial Services

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As a leader in the application of new technologies to advertising, design, and publishing, WestPac personnel created the cover art and all typographic elements of this special supplement on its electronic imaging and page composition systems. Color separations were printed directly from its computers. All type came from WestPac's in-house library of over 600 typefaces.

*FINANCIAL services are a critical part of running any business, large or small. Every good manager knows the proper use of limited financial services can have a profound impact on company profits.*

*That is truer than ever before in Hawaii's fast-paced, competitive environment. Today, the key to success may be a matter of getting a deal closed faster than the competition.*

*Financial services have become truly big business. At the end of 1989, total deposits in Hawaii's financial institutions amounted to more than $10 billion.*

*The competition also is changing. In 1989, the Bank of Maui became a branch of EastWest Bank, 50th State Bank applied for a state bank charter, and Bancorp Hawaii Inc. announced acquisition plans for First Federal Savings & Loan.*

*In 1990, First Hawaiian Inc. announced plans to acquire First Interstate Hawaii Inc. and American Savings Bank began plans to buy the branches and deposits of First Nationwide Bank in Hawaii.*

*All the changes boil down to one thing, however. In today's competitive environment, financial institutions know they have to serve their customers, and serve them better. They are eager to be partners with business owners and managers in their fight to control expenses and improve profits.*



*Financial institutions must offer the products and services to make the relationships valuable to their customers.*

AT First Interstate Bank of Hawaii, senior vice president and marketing director Michael A. Wood said the most important thing for bankers and their customers is developing a working relationship.

"When people ask me for advice, I tell them they have to get to know the manager at their branch and its staff," he said.

Wood said that whether the customer is an individual or a corporation, dealing with a financial institution is much like dealing with an accountant or a lawyer. You have to have a relationship.

At the same time, financial institutions have to offer the products and services to make the relationships valuable to their customers.

## Quality Service

Paul Yamashige, senior vice president for marketing at Central Pacific Bank, said a priority goal of his is to improve the quality of services to meet the needs of small businesses.

"We want to meet their needs to improve their potential for growth or expansion," he said, "or to cut back on expenses."

Yamashige said the loan officers and other support staff at Central Pacific are good listeners as well as financial professionals.

"Often it is wisest not to make a loan, but to offer really sound advice to customers, based on the experience we've had," he said.

Yamashige said that the staff at Central Pacific can help customers sharpen their business skills—not just in managing people but in managing their companies as well.

"For example, we have available people who have experience working on government-funded or government guaranteed programs," he said.

Yamashige said Central Pacific tries to "get the word out" that it has technical assistance available to help its customers take advantage of such programs.

"We have program officers go out and call on existing or prospective business customers to tell them about the services the bank has available.

"Generally, they are well received. Timing, however, is the key. We try to tell our officers to watch when they make the calls when they do not interfere with peak business hours," he said.

Yamashige said Central Pacific also has had a very favorable response to its new VISA business card, and that customers appreciate having a full line of credit cards available.

But ultimately, help with Small Business Administration and other government-backed loans is one of Central Pacific's most popular services with its business clientele.

At Bank of Hawaii, executive vice president for the business loan division Ron Migita said he also puts a strong emphasis on loans guaranteed by the U.S. Small Business Adminis-tration as well as working capital loans and lines of credit.

"SBA loans are a big product for us because Hawaii is made up of small businesses primarily," Migita said.



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*Centers are able to offer uniquely tailored services because the employees assigned to them spend all their time specializing in nothing else.*

He said that Bankoh has made more small business loans in Hawaii than any other financial institution.

## Banking Centers

Just as important, he said Bankoh operates a network of business banking centers to serve the needs of its customers and attract new clients.

"Our centers are dedicated to serving the total needs of small business in the state of Hawaii. This is one of our specialized areas," Migita said.

He said Bankoh operates three of the business banking centers on Oahu, and one each on Maui and the Big Island.

"We emphasize these unique centers which we set up to serve local businesses with annual sales of $1 million to $10 million," Migita said.

He said that Bankoh is the only financial institution in Hawaii offering such facilities and services.

"It's really beneficial to our customers because they are dealing with people who are experts and professionals in lending to mid-sized firms," Migita said.

He said the centers are able to offer uniquely tailored services because the employees assigned to them spend all their time specializing in nothing else.

"We have people who specialize in key industries including construction, tourism, manufacturing, wholesaling, and retailing. We have people in each center who have particular skills, eliminating a lot of wasted time and energy," Migita said.

He said the service to small and medium-size businesses is the "bread and butter" of the staff in each business banking center.

"Each customer of the bank is assigned a business banking officer whose responsibility is totally dedicated to serving all of the financial needs of a particular business account," Migita said.

## Commercial Windows

At American Savings Bank, senior vice president for retail lending Anna Marie Springer said the thrift is a much smaller business lender, but that it plans to start opening commercial windows in its branches in the next six to 12 months.

"The commercial windows are the only thing we don't have that the larger banks have, and we're working hard to match them," she said.

Springer said American Savings has offered business loans for only seven years, but that like Central Pacific it sends loan officers into the field to visit clients and potential clients.

She said the thrift has deliberately stayed small in the field of business loans to preserve its personal touch, but that customers can go into any branch to transact commercial business.

Springer said American tailors its services to the needs of the small business, the niche it has targeted for its lines of credit to be used for working capital and for equipment needs.

"We realize that as a smaller lender, in order to give the service we've chosen to offer, we



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*Sometimes clients fail to see family and friends, or other equity investors who might be partners in a project or business venture.*

can serve small-business professionals just starting out best," she said.

Springer said American serves its small-business niche on all major Islands through its network of 36 branches, although it has a centralized corporate banking department.

Of American's acquisition of First Nationwide locally, she said the deal offers an opportunity to the thrift's customers.

"First Nationwide will add a larger branch network so we'll be able to reach a larger community," Springer said.

She said American's small-business operation focuses on three product lines: lines of credit for working capital and equipment needs, bridge loans for the development of business, and fixed rate, or term, lending geared toward equipment.

And, like Central Pacific, she said American offers a VISA program for its business customers.

## Getting Credit

Finance and credit companies are also in the market, like savings and loans associations and banks tailoring the products to serve the needs of the business community.

At First Hawaiian Credit Corp., a subsidiary of First Hawaiian Bank, senior vice president for the branch division Winston Chow said he looks for specific programs to fit client needs, especially business customers.

He said First Hawaiian Credit Corp. tries to help clients solve problems they face, especially cash flow shortages, capital limitations, and asset acquisition needs.

"We have experienced loan offices and branch managers who really are problem solvers for the clients," Chow said.

"They help clients solve their problems primarily through equity financing in real estate," he said.

Chow said that as with his parent company, First Hawaiian Bank, the credit company takes pride in providing fast answers on customer applications.

"Also we assign a loan officer to stay with our business clients all the way through the process," he said.

Chow said that clients often think they have no equity, but that his loan officers can help them look for alternatives.

"Sometimes clients fail to see the likes of family and friends, or other equity investors who might be partners in a project or business venture," he said.

Chow said that in some situations, First Hawaiian Credit actually puts together the partnerships.

"And our managers and officers work closely with affiliates including First Hawaiian Leasing Inc. and First Hawaiian Bank," he said.

But its strongest suits, he said, are fast and accurate answers and tailored products.

"Most of our clients are small to medium-size companies, and our loans usually fall in the range of $500,000 to $5 million," Chow said.

He said the Investor Credit Line is one of the best examples of products that are popular.



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*The credit line operates the same as equity loans, but it is secured by income-producing property.*

"It uses commercial, income-producing property to secure the loans for business people to use for cash flow and equity," Chow said.

At GECC Financial Corp., executive vice president John Yap said the firm's business lines of credit, which essentially works like consumer equity lines of credit, is one of its most popular products.

## Lines of Credit

"The credit line operates the same as equity loans, but it is secured by income-producing property. We make loans up to $1 million for small businesses and people who own their own relatively small commercial businesses," he said.

That program deals specifically with the small commercial market, but bridge loans on the residential side also are attractive to smaller businesses.

Yap said that is particularly true because of the real estate market in Hawaii in which timing is crucial.

"Our program lets them buy quickly and shop around for better long-term credit," he said.

Yap said that the financial backing of the General Electric Co. is important to the operation of the finance company.

"Being part of a $53 billion company gives us unrestricted capital and a strong source of funding so we can consistently be in the marketplace," he said.

Ken Matsuura, also an executive vice president at GECC in charge of construction and income property financing, said most of his customers are developers and builders involved at different levels, mostly in larger scale projects.

For all customers, however, Matsuura said GECC offers three most appealing features.

He said the firm is flexible, "trying to structure deals to meet the needs of customers. We are much more flexible than the banks."

Matsuura said GECC is innovative in different ways to meet its own needs and the needs of any customer.

He said GECC has a flexible loan program, offering deferred interest payments on 3-year to 9-year loans for income properties.

And it offers participating mortgages. "We'd take a piece of the deal. We'll give customers more money than they would get with a traditional loan and we would give them more favorable terms in both rates and fees," Matsuura said.

In return, GECC would take a 10 percent to 50 percent share in the project.

Finally, he said GECC offers a very quick loan approval process.

That is really critical to the total picture, Matsuura said.

## Guarantee Programs

Speed also is considered critical at First Hawaiian Bank which recently unveiled a YesExpress program, an automated mortgage loan analysis system that substantially reduces the time needed to obtain a loan decision.

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*American Trust was created to give sophisticated clients the ability to run their own affairs— to choose their own investment managers, financial planners, attorneys and stock brokers while still enjoying all the benefits provided by a personal trust.*

Guaranteed Performance program, it promises customers an answer within 20 minutes from the time they have applied for and then chosen their loan, or they will receive $10 from the bank.

First Hawaiian also offers a Guaranteed Performance feature whereby checking account customers will receive $10 for any mistake they discover on their monthly statement.

Most recently, it added an error-free performance guarantee on all personal trust accounts.

The new performance guarantee covers First Hawaiian errors found by customers in all personal trust account statements. These accounts include revocable living trusts, agencies, probates and guardianships.

The guarantee is good for 30 days from the statement date. Customers who think they have found an error need only contact their trust officer, and if the error is First Hawaiian's, $10 will be credited to the customer's account.

Michael Roeder, senior vice president of the marketing division, said there are only two reasons most people change financial institutions—a change in residence or errors being made in their accounts.

Phil Ching, executive vice president of First Hawaiian's trust group, said there is probably a greater personal interest in trust accounts than in checking accounts.

"Customers want to make sure their money is accounted for and reported accurately" he said.

Roeder said there also is more room for errors in trust accounts because every entry has to be manually input.

"We think there is no one else in the country who has ever offered this," he said.

Roeder said it took four months to six months to develop the trust guarantee program.

"When we rolled out the checking account program, we had the others planned and we're just rolling them out one at a time," he said.

Even though trust accounts are mainly served from the main branch, customers can go into branches on the Neighbor Islands or call the main office if they discover a mistake in their accounts.

Douglas Wilson, vice president in the personal trust department, said the newest guarantee program is especially important to beneficiaries of estate and trusts.

"They have no control over terminating a trust account, but this gives them a comfort level with what we are doing with them," he said.

## Trust Services

Hawaii is well served by three conventional, full-service trust companies—Bishop Trust and Hawaiian Trust in addition to First Hawaiian's trust department.

The organizations have met the traditional need of people looking for investment as part of their personal trust services.

American Trust Company of Hawaii, however, also serves the market, but as more of a maverick.



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*Hawaii's financial institutions are becoming as sophisticated as any on the Mainland. Their is no technical reason for residents to take their business out of state.*

Founded in 1971 by former bank president, community leader and national trust authority Robert R. Midkiff, American Trust was created to give sophisticated clients the ability to run their own affairs—to choose their own investment managers, financial planners, attorneys and stock brokers while still enjoying all the benefits provided by a personal trust.

"I got the idea for a purely custodial trust company from three widows. Each came to see me at different times with the same story that their trust company was telling them what to do with their money, but that they knew more than their trust officers," Midkiff said.

To satisfy such customers, he formed one of the country's few "stand alone" custodial trust companies, which now has more than 4,200 customers coast-to-coast.

"At American Trust, we provide our niche clients, most of whom are successful professionals or entrepreneurs, with the trust framework they need for their affairs plus the administrative services they have to have to stay in compliance with federal regulations and to keep on top of all the paperwork," Midkiff said.

"So for these kinds of clients, a custodial co-trustee gives them full freedom to act as they please, to seek independent advice on financial matters, and to know their paperwork is being capably handled," he said.

Midkiff is founder and chairman of American Financial Services of Hawaii, parent firm for both Bishop and American, Hawaii's only two independent trust companies.

American Financial Services offers a growing range of financial services to Island residents, Midkiff said.

"Our marketing people at Bishop and American are sensitive to the needs of new clients and will recommend the trust company that will better meet their potential clients' needs," he said.

"Between Bishop and American, and our third sister company, BEST Administrators, which specializes in administering pension plans for organized labor, just about every conceivable trust service, including retirement plan administration, is available to people in Hawaii and on the Mainland," Midkiff said.

American Trust administers and trustees more pension and profit sharing plans than all other local trust organizations combined.

Starting in the mid-1970s, Midkiff started marketing custodial trust accounts on the U.S. Mainland.

As a result, American Trust became the first Hawaii-headquartered financial services institution to carve out a market with customers as far as 5,000 miles away.

"Because of the six-hour time difference between Hawaii and the East Coast, our clients there can phone us toward the end of their work day to give us instructions for their account while we here in Honolulu are just gearing up for our day," Midkiff said.

He said it is possible to fax back confirmation that the transactions have been completed so that they have been received by the time the clients get back to their offices the next morning.



*Banks, savings and loan associations, and trust companies have developed products and services specially designed to help their clients. They are becoming as sophisticated at marketing as they are about their core business.*

"Hawaii's time difference is a powerful asset. We can give Mainland-based trust companies a run for their money," Midkiff said.

## Investment Expertise

At Hawaiian Trust Co., a subsidiary of Bank of Hawaii, assistant vice president Siri O'Hara said that her firm can offer anything a Mainland trust company offers, and that there is no reason for residents to hire out-of-state firms.

"Our investment expertise is as technologically advanced as any Mainland money manager," she said.

O'Hara said traditionally people have believed trust companies are for widows and orphans, and for buying certificates of deposit, Treasury bills and making other conventional types of investments.

"Over the past 15 years, Hawaiian Trust has developed into an innovative money manager as advanced as any other," she said.

"We are a group or team of professionals managing our customers' money," O'Hara said.

She said that in addition to any trust or estate, Hawaiian Trust handles agency business, foundations, endowments, charitable remainder trusts, pension plans and profit sharing plans.

"We offer as wide a variety of services as any Mainland firm, and we are true professionals in the field who can provide superior returns," O'Hara said.

She said most clients expect competitive returns, efficient and personalized service and reasonable fees.

O'Hara said Hawaiian Trust delivers on all three.

She said that over a 10- year period, Hawaiian Trust has shown a return in its Income Stock Fund of up to 16.52 percent annually, and in its Hawaii Growth Stock Fund of up to 16.34 percent annually.

"That can be compared with the Standard and Poor's 500, which increased 12.6 percent over the same period," O'Hara said.

"Our approach to investing is growth oriented. During the 1980s, Hawaiian Trust transformed its investment philosophy into a comprehensive selection methodology," she said.

O'Hara said a key to Hawaiian Trust's successful investing is the consistent application of its philosophy.

"Money managers tend to change their philosophy with changing economic conditions. We have not done that. Our growth-oriented approach has been successful even in the latest bull market when the market has been driven by value-oriented investing," she said.

She said Hawaiian Trust's methodology creates earnings growth portfolios with investments in high quality companies, portfolios that are sensitive not only to the current economic environment but also to changes in a participating company's future earnings expectations.

"We have a large number of small pension and profit sharing plans. They are invested in a profile system that is customized to the specific needs and risk tolerances of its employees," O'Hara said.



*Financial institutions know the lessons of the marketplace well— their role is to serve Hawaii's fast-growing business community.*

"With our sophistication, there is no need for clients to feel they have to go to the Mainland for good investment performance," she said.

## Targeting Markets

At First Interstate Bank, Wood said it is important for every financial institution to understand the market it serves, whether it is a trust company, bank or savings and loan association.

He said it is particularly important to serve the senior citizen market, whether with trust services or other product lines.

Wood said individuals over 55 years old are the fastest-growing segment of the population, 62 million strong today, but projected to reach more than 76 million by the turn of the century.

For this reason, First Interstate recently started packaging or bundling services to make it easier for customers, businesses and individuals, to obtain the array of services they need in one place.

"One of the products we introduced last year was the senior value account for individuals 55 year old and older. They tend to be the most price sensitive and value conscious," Wood said.

He said they also tend to maintain higher balances and therefore believe they deserve better service.

"The senior value account was developed to attract and retain this important market segment by providing the products and services seniors have come to expect in a single convenient valuable package," Wood said.

He said that with giveaways and discount items in restaurants, the visitor industry, and movie theaters, customers have come to expect discounts.

For those reasons, the First Interstate senior value program includes no-fee VISA or MasterCard charge cards, free American Express travelers checks, free checks and free credit card registration.

"We also offer free checking accounts with no balance requirements as long as customers are 55 and maintain a $3,000 balance in some account such as a CD or savings account. It does not have to be in their checking account," Wood said.

He said all financial institutions today are competing in a tight market to better serve clients with such specialized products as First Interstate's Senior Value Account.

All financial executives agree that it is critical to provide such products and services to meet customers' needs. Financial institutions know the lessons of the marketplace well— their role is to serve Hawaii's fast-growing business community. And with their support, its growth will continue well into the 21st century.






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in lesion size in live human patients. The work of his group at the University of Southern California in the mid-1970s with the Jet Propulsion Lab of the California Institute of Technology focused on the femoral arteries, which are well suited for studies of this kind. These results indicated that regression of atherosclerosis does occur in a relatively short time in some patients after marked lowering of plasma cholesterol. But those whose plasma cholesterol was not lowered by therapy showed no regression of their disease.

Dr Blankenhorn and his group have recently published the early results of their most recent study, which goes under the acronym of CLAS[8]. This interesting "Cholesterol Lowering Atherosclerosis Study" of coronary atherosclerosis before and after therapy has indicated that a major reduction in LDL-Cholesterol while at the same time raising HDL-cholesterol results in a definite retardation of plaque progression, a stabilization of a large proportion of atheromatous lesions, regression of a substantial number of plaques and prevention of new lesion formation. This study, which was limited to individuals with advanced diseases who have already undergone a previous coronary artery bypass, certainly provides a positive note favoring active intervention in those individuals who have already suffered from the effects of severe ischemic heart disease. Many other similar studies are in progress. We may look forward to further detailed reports from the CLAS study and additional results from other investigators at other centers.

## Conclusions

We are now entering an era, insofar as human atherosclerosis research is concerned, in which we can obtain reliable data from relatively small numbers of individuals. These will be carefully controlled groups in which lesion response to therapy will be measured by what may be called autopsy-calibrated, quantitative, computer-assisted, sequential arteriography. Some of the rapidly developing noninvasive types of measurements of lesions, such as by ultrasound and by MRI, may ultimately give us information about lesion components as well.

It is evident that we have a spectrum of opportunities for intervention in the all-too-widespread disease process of atherosclerosis[1: see figure 34-13] In the young we can now survey and detect those who are most prone to develop this disease, as indicated by blood cholesterol determinations during childhood and during late adolescence. In young adulthood, at a time when we believe that the disease progresses most rapidly in the atherosclerosis-prone individual, it is advisable to adopt a nutritional approach that maintains the serum cholesterol at levels below 200 mg/dl.

In those individuals who have clinical signs, symptoms and laboratory evidence of impending cardiovascular and cerebrovascular disease, the existing experimental results indicate that every effort should be made to reduce the serum cholesterol to as near 150 mg/dl as possible, using a combined nutritional and, if necessary, drug therapy approach.

In those patients who have already experienced serious, life-threatening consequences of atherosclerosis, and who have had mechanical or surgical interventions designed to treat their ischemic heart or brain disease, the lessons learned from research should be applied intensively. This means that those who have benefited from the modern treatments of the coronary care unit such as coronary angioplasty, coronary bypass surgery or carotid artery endarterectomy, should undergo especially vigorous cholesterol-lowering therapy. They are quite likely to have severe atherosclerotic disease in other parts of their arterial system. They deserve a vigorous clinical approach that is aimed at retardation and reversal of their atherosclerosis. ■

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# Atherosclerosis in Japanese in Japan and in Hawaii:

## A summary review of pathology studies in Honolulu and Hiroshima

Grant N. Stemmermann MD*
Takuji Hayashi MD*

*The mortality rate from heart disease is much higher among the Japanese of Hawaii than those of Japan. A comparison of autopsy specimens from men who died in Honolulu and Hiroshima indicated that this difference can be explained by more frequent myocardial infarcts in the Hawaii population. The basis for this difference can, in turn, be explained by the presence of more severe degrees of coronary atherosclerosis among the Hawaii men. The mortality rates for stroke, on the other hand, are higher among the indigenous Japanese than among Hawaii Japanese men. The basis for this difference cannot be explained on the basis of atherosclerosis of the aorta or of the circle of Willis. This report summarizes the comparative anatomic studies of coronary arteries, aorta and circle of Willis that form the basis for these conclusions.*

Japanese Americans experience higher mortality rates from heart disease than do the Japanese in Japan, whereas the reverse is true with respect to death from stroke[1,2]. These differences generated a prospective epidemiological study among 3 defined male populations in Hiroshima, Honolulu and San Francisco (The Ni-Hon-San Study)[3]. Study subjects were examined according to a common protocol in the years 1965-68, and they have been followed subsequently by community surveillance in order to identify events and deaths. The Honolulu and Hiroshima studies included autopsy studies when it was possible to obtain permission to perform them. The pathologists in the 2 cities developed a common methodology and met at regular intervals in order to maintain uniformity of observations.

### Methodology

There were 2,131 men in the Hiroshima cohort and 8,006 men in Honolulu that were studied. By the end of 1971 there were 849 deaths in Hiroshima and 925 in Honolulu, among which 191 were autopsied in Hiroshima (22%) and 298 in Honolulu (32%). The Hiroshima autopsy subjects appeared to be representative of the deaths in that population, whereas there was a slight under-reporting of coronary heart disease (CHD) among Hawaii autopsy subjects.

Examination of the heart included microscopic examination of sections of the myocardium from the following sites: Anterior interventricular septum, anterior papillary muscle and ventricular wall, posterior papillary muscle and ventricular wall, lateral right ventricle, posterior mitral valve and left atrium, bundle of His. Additional sections were taken from areas showing gross lesions if they involved zones not included in the protocol sections. Sections were taken from 12 areas of the brain: Left frontal, motor and visceral cortex; left cyngolate gyrus, hippocampus, and cerebellar hemisphere; optic chiasm, mid brain, pons, medulla oblongata and 2 sections from the left basal ganglia. Additional sections were taken from lesions not included in the protocol.

The coronary arteries were dissected out of the heart, opened longitudinally and sewn onto plastic sheets, then stored in formalin. The aortas were also opened longitudinally and sewn onto plastic sheets. The circles of Willis were also sewn onto plastic sheets; they were subsequently assigned an atherosclerosis score on the basis of examination of cross sections of various segments[4].

There were 4 different methods used to assess the degree of atherosclerosis in the coronary arteries and the aorta: 1) Gross estimation of the total area of the intimal surface of the aorta and the coronary arteries and the percent involvement by atherosclerotic lesions (fatty streaks, fibrous plaques, complicated lesions) in these vessels[5]. 2) The grid-counting method was used for numerical integration. Semi-rigid plastic sheets lined in 5x5 mm squares were laid onto the flattened intimal surface of the aortas. The highest grade of lesion in each square was then recorded. 3) The point-counting method utilized plastic sheets imprinted with black dots so arranged that any group of 3 neighboring dots formed an equilateral triangle with sides 1 cm long. The total number of points overlying each type of lesion was determined and the percent of these was derived from the total number of dots. 4) The panel method employed photographs of the aorta and coronary arteries prepared by the American Heart Association as a way to determine ranking[6].

The gross visual method revealed the greatest inter-observer variation. The grid and point counting methods yielded good

*Department of Pathology,
Kuakini Medical Center, Honolulu, Hawaii

Address reprint requests to Grant N. Stemmermann MD
Honolulu Heart Program, 347 North Kuakini Street, Honolulu, HI 96817

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inter-observer correlation, but were too tedious and fatiguing for the examination of large numbers of specimens. The panel method showed a high level of intra- and inter-observer reproducibility and was the easiest to use. It was chosen as the method to be employed by the Ni-Hon-San Study and for subsequent autopsy studies of the Honolulu Heart Study.

The panel method was useful when comparing the observations by these 2 geographically-separated laboratories, but it has not been used in other studies of the geographic distribution of the pathology of atherosclerosis. The pathology laboratory of Louisiana State University (LSU) has examined vessels from many geographic sources and found the gross visual method to be useful for this purpose. We have recently submitted a group of our specimens to the LSU department in order to compare the results of the 2 methods[7]. The 2 methods appear to correlate well: Aorta r=0.74, coronary arteries r=0.63. Not surpringingly, the 2 methods yielded similar T-values when increasing degrees of atherosclerosis were plotted against the frequency of myocardial infarction (panel =6.2, visual =5.3). The 2 methods yield different associations with epidemiologic variables, as shown elsewhere in this publicaton.

The estimation of the degree of atherosclerosis in the circle of Willis was based on the amount of involvement as seen in cross section of the vessels. Scores ranging from 0-4 were assigned to each of 22 sites. The scores were determined as follows:

0 No atherosclerosis.
1 Opacity involving a small part of vessel circumference; and no narrowing.
2 Diffuse, thin plaque with minimal lumen narrowing or small thick plaque with less than 25% narrowing.
3 Diffuse thin plaque with medial narrowing or localized plaques producing 25-50% narrowing.
4 Thick plaque involving the entire vessel circumference with marked or moderate narrowing, or localized plaque resulting in over 50% lumen narrowing.

## Results

Areas of recent myocardial necrosis were 5.5 times more frequent in Honolulu Japanese than in Hiroshima men; large myocardial scars were 1.5 times more frequent in Honolulu men[8]. Higher grades of aortic atherosclerosis (grades 5-7) were found in 32.1% of Honolulu men and 15.2% of Hiroshima men. Higher grades of coronary atherosclerosis were found in 38.2% of Honolulu men but only 4.7% of Hiroshima men. Higher grades of both aortic and coronary artery atherosclerosis were found at every age level from 45-49 to 70 or more years. It was characteristic that more severe degrees of atherosclerosis appeared at a younger age in Honolulu men than in Hiroshima men. These findings indicated that the increased frequency of ischemic lesions in the myocardium among Japanese men who migrated to Hawaii is the result of atherosclerosis of the extramural segments of the coronary arteries.

Comparison of the circles of Willis in 184 Hiroshima and in 88 Honolulu autopsy subjects[9] showed higher mean scores in Honolulu men (1.58) than Hiroshima men (1.01). Higher scores of atherosclerosis were found in the cases of both cerebral infarct and cerebral hemorrhage in each city, but the scores were consistently lower in Hiroshima than in Honolulu. The Hiroshima men showed a higher percentage of old infarcts (44%) than did Honolulu men (25%), but a similar frequency of recent infarcts and hemorrhages.

Subsequently, an additional 134 Honolulu autopsy specimens were evaluated, using the same analytical method[10]. This showed a consistent decline in the degree of atherosclerosis among Honolulu men over time (it is unlikely that this was the result of a change in methodology in scoring vessels, since older specimens re-read at a later time yielded scores similar to the first reading).

There has been a temporal decline in the coronary arteries as well[11], but aortic scores have been unchanged over time. The reason for this temporal change has not been established.

The lesions in the heart and brain cannot entirely be explained on the basis of atherosclerosis in the major vessels, such as the coronary artery, aorta and circles of Willis. Mural myocardial scars less than 5 mm in diameter and areas of diffuse papillary muscle fibroses are actually more numerous in Hiroshima men than in Honolulu Japanese men, whereas focal scars in the papillary muscles are more common in Honolulu men[12]. Focal papillary muscle scars above are associated with higher coronary artery scores in both geographic sites and these probably represent small subendocardial infarcts. The mural myocardial scars and areas of papillary muscle fibrosis are associated with increased small vessel sclerosis. Sclerosis of intraparenchymal vessels is more common and more severe in the Hiroshima autopsy subjects than those in Honolulu[9]. This is associated with more frequent infarcts in Hiroshima than in Honolulu.

## Summary

Comparison of the degree of atherosclerosis among male Japanese autopsy subjects in Hiroshima, Japan, and in Honolulu, Hawaii, indicates higher degrees of atherosclerosis of the aorta, coronary arteries and circles of Willis in Honolulu. This difference correlates well with the frequency of myocardial infarcts in the 2 populations, but not with the frequency of cerebral infarction. ■

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*... is this the last word?*

# The evaluation of the patient with hypercholesterolemia

John Melish MD*

*In 1985, the National Institutes of Health convened a Consensus Conference of experts in the field of atherosclerosis. This group developed recommendations for the treatement of hypercholesterolemia as a risk factor for coronary atherosclerosis. Their report[1] noted that physician and patient education had been responsible for success in treating other important coronary disease risk factors such as hypertension and smoking. They concluded that a similar educational approach would facilitate the discovery and treatment of elevated serum cholesterol. Such a program would have a major impact on morbidity and mortality from atherosclerosis related to hypercholesterolemia.*

The National Cholesterol Education Program Expert Panel reviewed the multiple clinical, pathological, epidemiological, genetic, metabolic ward and animal studies demonstrating the relationship between elevated serum cholesterol as a measure of atherogenic low-density lipoprotein (LDL) and the risk of coronary disease. The panel further noted that the recently reported Lipid Research Clinics Primary Prevention Trial[2] had demonstrated that coronary risk was in fact decreased by lowering serum cholesterol in a cohort of men with hypercholesterolemia. Coronary heart disease mortality fell by 2% for every 1% reduction in serum cholesterol.

The Expert Panel went on to make recommendations concerning case finding of elevated LDL. It created a National Cholesterol Education Program (NCEP) to develop and implement a program to guide physicians in discovering and treating patients with this coronary disease risk factor. Published in January 1988, the NCEP report[3] has rapidly become a standard with which to measure our approach to the health maintenance care of our individual adult patients.

The NCEP based it's recommendations on the understanding derived from many studies[4,5] that three-fourths of the risk of coronary disease due to hypercholesterolemia comes from having a serum cholesterol of greater than 200 mg/dl. The committee redefined the upper limit of normal for serum cholesterol in light of coronary risk rather than by standard deviations from a population mean. It defines a serum cholesterol of < 200 mg/dl as being "desirable", between 200 and 239 mg/dl as "borderline elevated" and 240 mg/dl or above as "high risk." 200 mg/dl is about the mean serum cholesterol for the American population (50th percentile) while 240 mg/dl represents the 70th percentile. The corresponding LDL values are less than 130 mg/dl, between 130 and 159 mg/dl and ≥ 160 mg/dl respectively. Thus, by these definitions, 50% of the American population has an elevated serum cholesterol.

The NCEP report recommended the following screening (Table 1) and treatment goals (Table 2). Serum cholesterol should be obtained in everyone over age 20 (fasting not necessary). In addition, patients should be screened for other known coronary risk factors: Hypertension, cigarette smoking, diabetes mellitus, severe obesity, a history of CHD or a family history of premature CHD. The male sex also qualifies as a risk factor. Those with serum cholesterol < 200 mg/dl should be retested in 5 years. Those with values between 200 mg/dl and 239 mg/dl should have a repeat, fasting, test to confirm the elevation; the average of the 2 values should be used to determine further therapy.

If the average is still "borderline elevated" the patients should be given dietary advice and followed yearly, as serum cholesterol tends to increase with time. If they have at least 2 risk factors, or have symptomatic coronary disease, vigorous efforts should be launched to lower the cholesterol to < 200 mg/dl.

If the serum cholesterol is ≥ 240 mg/dl, a lipid analysis should be performed to determine LDL cholesterol on a fasting plasma sample (LDL cholesterol = Total Cholesterol - [Triglycerides/5] - HDL cholesterol).

*Endocrinologist
John A. Burns School of Medicine
1356 Lusitana Street
Honolulu, HI 96813-2421

Summary of Presentation
Winter Meeting, Hawaii Society of Pathology

If the LDL cholesterol is > 160 mg/dl, dietary efforts should aim at lowering it to < 160 mg/dl. However, in the presence of 2 or more risk factors, or in the presence of symptomatic CHD, the minimal goal should be to lower LDL cholesterol to < 130 mg/dl. If patients have markedly elevated LDL concentrations (190 mg/dl equals the 95th percentile), efforts should be made to lower the value to < 160 mg/dl. In the presence of 2 risk factors, or symptomatic coronary disease, the goal should be an LDL cholesterol of < 130 mg/dl.

The initial therapy for elevated LDL cholesterol should always be diet alone. Dietary counseling should be done by the physician, with professional assistance from a dietitian only if the treatment goals are not achieved. If diet alone is ineffective, then appropriate medication should be added[3].

The recommendations of the Expert Committee have stimulated vigorous discussion and debate in the medical community. Many physicians still express concern as to the benefit of universal serum cholesterol screening[6,7]. They argue that increased health care costs, patient anxiety and minimal coronary risk reduction outweigh the benefits of universal screening and treatment. They question the ability of many clinical laboratories to provide accurate LDL determinations (the error of LDL measurement may be large, since this error reflects the combined errors in measurement of total triglyceride, total cholesterol and HDL cholesterol.

Will insurance companies cover the costs of these "screening" determinations? Ordinarily, they do not. Should women who, in general, have a lower coronary risk, be evaluated and treated for hypercholesterolemia using the same standards as are used for men? Will primary care physicians or subspecialists have the time, the interest, or the expertise to implement the educational aspects of the program?

Although many of the above questions have yet to be completely answered, the Expert Committee presented its opinion in a definitive manner based on the best scientific evidence at its disposal. These recommendations have become the basis for evaluating the quality of health care. The Committee challenges us and our patients to undertake and implement this program. Periodic evaluation of this program will help answer the criticisms. Critical review of the program should be an integral part of the continuing quest for cost-effective ways of combating the morbidity and mortality of atherosclerosis. ■

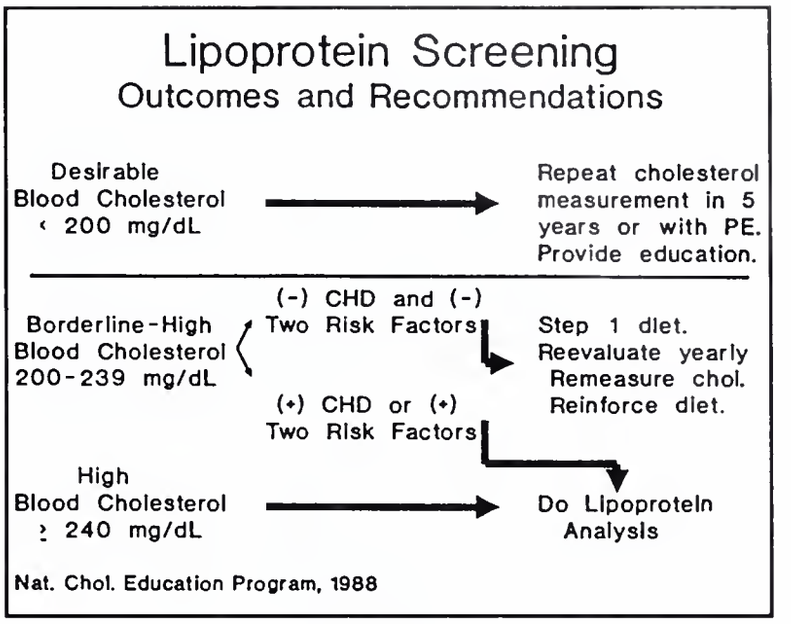



**Table 1.**

## Treatment Decisions Based on LDL Cholesterol (mg/dL)

| Treatment | Initial LDL Chol. | Minimal Goal |
|---|---|---|
| *Dietary* | | |
| Without CHD or 2 other risk factors. | ≥ 160 | < 160 |
| With CHD or 2 other risk factors. | ≥ 130 | < 130 |
| *Drug* | | |
| Without CHD or 2 other risk factors | ≥ 190 | < 160 |
| With CHD or 2 other | ≥ 160 | < 130 |

Nat. Chol. Education Program, 1988

**Table 2.**

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her facts and exercised good judgment in not reporting Day's "lecture."

Finally, regarding HIV testing and informed consent: The Life Foundation was the first AIDS organization in the nation in 1985 to encourage people to be tested *anonymously.* I agree with Ceccarelli's concern that the HIV antibody test should be considered the same as any other diagnostic blood test; however, only after discrimination in matters affecting housing, employment, dentistry, medicine and insurance are addressed *and* corrected and become socially acceptable.

Jeffrey T. Schouten MD
President, Life Foundation

# Dr Ceccarelli responds

To the Editor:

Both Drs Thorburn and Schouten have missed the main points of Dr Day's lecture and of my original letter: "AIDS has been a universally fatal disease; there is no vast amount of data showing that AIDS cannot be transmitted by casual contact, just lack of such data; there is a large amount of anecdotal data suggesting that AIDS can be transmitted by casual contact; the media and the legislators ignored a controversial, newsworthy event, presumably because of political pressure; concepts initially decried (unusual sexual practices, blood transfusions, and needle sticks) are now accepted; as the number of the infected increases, so may the incidence of transmission by less efficient means."

None of us is perfectly objective (myself included), and both the CDC and Dr Day have been extremely selective in their choice of statistics. Drs Thorburn and Schouten are no exception in their selective approach, nay, might even be cited as better examples of bias than that shown in Dr Day's original address. I personally feel that Dr Day's address would have been much more effective if she had left out her condemnatory reference to the homosexual population which justifiably inflames those in her audience who are so inclined.

Epidemiologic studies do *not* demonstrate that Dr Day's preventive measures are excessive. The work that might substantiate this claim of Dr Thorburn's is either not cited or not yet carried out. Mandatory HIV testing may or may not "solve any problems from the epidemic." Whereas we have some idea about the extent of AIDS, we know very little about the asymptomatic infected group[1]; we cannot differentiate by ethnic or economic group, by occupation, by island, by age, by sex, nor by life style.

Even though some health care workers have had occupational problems[2], the argument that testing drives people away from needed health care deserves substantiation, not just speculation, especially as to the number who so react. The number of times the phrase is repeated is not necessarily directly related to the number of people to whom it applies. These arguments were presented 40 years ago in a superb Nobel-winning work of fiction[3] (which should be read by anyone with an interest in objective disease control), and have been perpetuated ever since. Working against unfair discrimination should be a "given," but there should be some protection for the health-care worker whose *involuntary* exposure to risk is relatively high (accidental needle sticks are, by definition, *not* preventable) as opposed to those exposed by *voluntary* anal intercourse. The person who is accidentally stabbed by a sharp instrument has a right to know whether s/he has been exposed, in order that s/he too may start treatment early. Considering the treatments available–or lack thereof[4]–it might behoove us to learn more about the disease and pay more attention to protecting the life of the uninfected, rather than protecting the social status of those already infected.

Of course, the risk of contracting HIV is higher through voluntary anal intercourse than with involuntary needle sticks; the figures given of 1 in 250 and 1 in 200 respectively refer to unprotected anal intercourse with an infected person and the needle stick with one infected with HIV positive blood[5]. Although I personally question the accuracy of such small numbers in such private (intercourse) or protected (blood test for HIV) activities, there seems to be no question that it does happen, and these figures are generally used. Transmission of HIV by non-penetrating means has *not* been disproved and no vigorous testing has been completed. There are numerous anecdotal references which suggest that it *can* occur (contact with intact skin[6], transmission by bite or household contact[7], kissing[8] and oral sex[9]), and even Dr Thorburn states "that occupational infection occurs *primarily* from penetrating injuries." Whether Dr Day's precautions are prudent or frivolous is not a question that can be answered at present.

Dr. Schouten is every bit as selective in his choice of words as Dr Day–and he is less objective and less candid. He does not mention that he *was* allowed to speak at the meeting without interruption, and that he had previously threatened the Federation that, if not allowed to speak, "I expect there will be a disturbance or disruption." I cannot recall anything in his remarks that made it a "more balanced presentation"–but my opinion may not be very objective. Since I did not poll the entire audience, I don't know who was there to agree or disagree with Dr Day; it seemed to me that the majority was there to learn from her. However, I can state definitively and objectively that the only "hysterical" remarks I heard were the ones presented by those opposing Dr Day's lecture, and that the "heated [part of the] exchange" was unilateral.

Whether casual causal transmission of the HIV in the operating room does happen in actual practice will not be known for years, especially since we do not do regular HIV testing. Most non-surgeons do spend a few hours in the OR during medical school, but this can hardly be considered a significant amount of time, especially for those who end up in Public Health. To "drip blood into the patient" would be very rare, if it ever does happen, but injuries and cuts are inevitable[10] and cross-contamination is a possibility. In regard to hepatitis B, I personally believe that hospitals, and surgical and anesthesia societies, ought to make a major point of mandating vaccination for those not already immune, and a change of occupation for chronic carriers. The Council on Ethical and Judicial Affairs of the AMA has stated that if there is "even minimal risk" to the patient from the physician, the physician should not engage in the activity in question[11].

The reference to patients remaining HIV antibody-negative after documented infection actually states, "27 of whom remained seronegative for *up to* 36 months after positive cul-

tures"[12]. Other studies have confirmed such delay in conversion after documented infection[8]. It is not the test which is unreliable, but the patient's likelihood to seroconvert.

Dr Schouten writes: "The number of new, sexually transmitted diseases in the gay community has dropped dramatically...while sexually transmitted disease in heterosexual groups continues to increase at alarming rates."

In fact, in Hawaii total cases of AIDS ("gay") *increased* from 101 in 1988 to 168 in 1989; in the same time period, syphilis (heterosexual) *decreased* from 49 to 18, and gonorrhea (heterosexual) *decreased* from 863 to 730[13]. (How many AIDS cases are drug related? *We don't know*, which is my theme throughout this letter.)

In comparing HIV seroprevalence studies between 1988 and 1989, "blinded" seroprevalence studies showed a total *increase* from 56 to 215 cases; HIV positive STD clinic cases *increased* from 47 to 130; HIV positive i.v. drug-users *increased* from 2 to 4; and HIV positive cases in prisons *increased* from 6 to 12[14]. During the same years, statistics from statewide anonymous test sites showed that HIV positive cases in i.v. drug-users *decreased* from 46 to 21 (7.86% to 3.81%); HIV positive cases in homosexuals *increased* from 117 to 122 (14.27% to 14.93%). In those categorized as *"NO KNOWN RISK,"* HIV positive cases *increased* 100%, from 4 to 8 (.26% to 1.86%), and this increase has continued at an even greater rate (3.26%) in 1990[15]. These "No Known Risk" figures are very small, but very scary, at least to me. Does this portend a trend? I hope not, *but we don't know!* Does this represent people who truly have no *known* risk, or just those who are denying their life style? *We don't know.* This is regrettable and not justifiable.

Drug addicts who share needles are generally regarded as being irresponsible. I feel that homo- or bisexuals who practice unsafe sex must be similarly classified. Almost all of them practice safe sex nowadays–*sometimes*. "During the previous two months, 64% (of homosexual men) and 50% of those who were HIV positive had engaged in at least one sexual behavior considered unsafe"[16]. (These three paragraphs are not meant to condemn the homosexual community; I cannot correct Dr Schouten's remarks in any other way. I really am trying to be more objective than Dr Day.)

Perhaps, as Dr Schouten declares, it is indeed true that the "local media is well-educated on AIDS;" however, the media should examine both sides of any topic, which they have not done. It is typical of many partisan advocates, such as Drs Schouten and Thorburn (and Day!) that they want only one side presented. Those with opposing views are labeled as homophobes, hysterical and sadly misinformed. We need honest debate, not name-calling. We need and expect that the medical community would lead in this, and not relapse into propaganda. Dr Day's talk was at fault in this regard, it is true, but we have heard one side again and again and again: By the Life Foundation, the AIDS Task Force, The Governor's Commission on AIDS and the ACLU. When we wish to hear another point of view, we become the victims of vituperation. I would expect the chair of the HMA Committee on AIDS, as well as the public health officials, to recognize that their primary raison d'etre is to protect the uninfected and to remain objective; this I do not believe they have demonstrated.

Except in the case of rabies and meningitis, I can recall no other communicable disease in the history of mankind which has been so universally fatal, and none which is so delayed in its onset. I do not believe that many homo- (or bi- or hetero-) sexual people irresponsibly and intentionally infect others. However, I am totally unable to understand how anybody, even–or especially–somebody already infected, can be so opposed to our learning every scrap of information about this universally fatal disease which has increased at the rate of 66% in the last year alone in Hawaii, even if this does inconvenience some people. (I am willing to admit that I don't know what my attitude would be if my test had come back positive.)

Since we really don't have any curative treatment as yet, we should do everything we can to protect the still-uninfected. Somewhere along the way, we just *might* find an effective cure.

If health-care workers are threatened with penalties for discriminating against persons with HIV infection, then the reverse should be applicable. Involuntary testing, where indicated, must be the penalty. One method could be to screen all patients admitted for surgery or delivery. We hear all too much about patients' rights (and criminal and minority rights), and not enough about responsibility!

What am I asking for? The opportunity to test as many people as possible for this disease under rules of very strict confidentiality. No Kalaupapa, no burning of Chinatown; but, on the other hand, no Typhoid Mary and no Gaetan Dugas[17]–just more information about this plague.

Frank E. Ceccarelli MD

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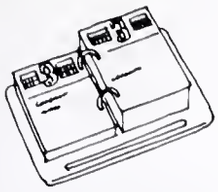

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## CALENDAR OF ACCREDITED EVENTS—CATEGORY 1

Accredited Programs of CME allow one unit of AMA credit for each hour of instruction excluding all "breaks." Some programs also are accredited for AAFP prescribed credit.

### LOCAL ACCREDITED PROGRAMS ONGOING

For a complete list of ongoing programs, please refer to the March 1990 edition of the Hawaii Medical Journal. Further information is available through the individual institutions or through the HMA's CME Department.

### SPECIAL EVENTS

All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the Hawaii Medical Journal.

**JULY**

7/24-7/26

**The Second Annual Queen's Cancer Institute Symposium: Gastrointestinal Malignancies '90.** Co-sponsored by the Hawaii Medical Association. Contact: Karen Taoka, Queen's Cancer Institute, 1301 Punchbowl St., Honolulu, HI 96813; 808-547-4660. Location: Hilton Hawaiian Village, Honolulu.

**AUGUST**

8/16-8/19

**Specialties & Primary Practice.** Contact: Symposium Maui, Inc., P.O. Box 833, Makawao, HI 96768, 808-878-6757 or 808-661-8032. Location: Royal Lahaina Resort, Kaanapali Beach, Maui.

**DECEMBER**

12/24-12/30

**Advances in Medicine '90.** Contact: Symposium Maui, Inc., P.O. Box 833, Makawao, HI 96768, 808-878-6757 or 808-661-8032. Location: Royal Lahaina Resort, Kaanapali Beach, Maui.

**JANUARY**

1/28-2/1

**Ninth Annual Hawaii Conference on Gastrointestinal and Hepatic Diseases.** Honolulu Medical Group Research and Education Foundation. Contact: Gastroenterology '91, 1380 Lusitana St., Suite 701, Honolulu, HI 96813, 808-536-1021. Location: Four Seasons Resort, Wailea, Maui, Hawaii


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# Most Contagious

We talk of contagion and sorts of disease;
Some affect humans, and some plants and trees.
Some spread by vectors like lice, ticks, and fleas.
And others by coughing or droplets from a sneeze.
There is always disease to infect and destroy.

Some do no damage, but just make charades.
While others are deadly like the much dreaded AIDS.
Some need the tropics like the moist Everglades,
While TB needs winter and in warm weather fades–
These contagious campaigns are not to enjoy!

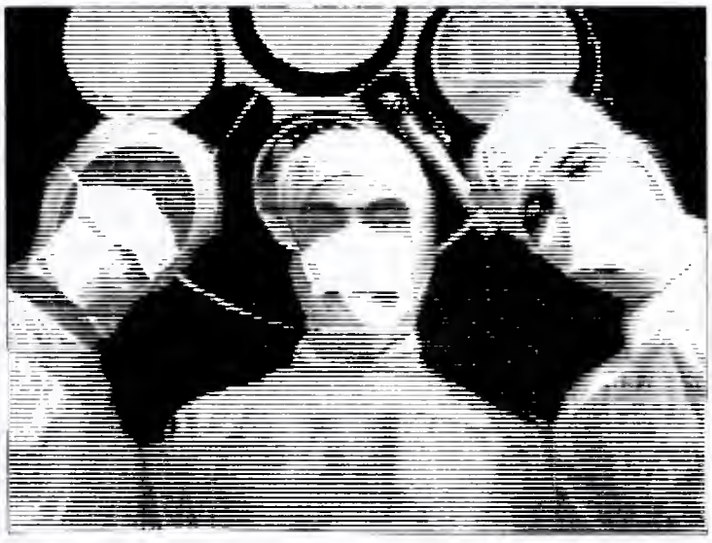
Some spread by contact of an intimate sort
Which makes people anxious when they want to cavort.
Some start out raging then slowly abort,
And others prove monsters, when at first they looked short–
A very mean warrior we thought was a boy.

Bacteria, fungus, or elusive virus,
They're all casting nets in hopes they acquire us.
Contagion evasions exhaust us and tire us.
But don't get depressed for the last verse will inspire us
And give us some "info" we can ably employ.

All epidemic–with varying virility,
But contagious enough to destroy our tranquility.
But when judging contagion to the best of my ability
I always conclude with smiling humility,
*"There is nothing in life so contagious as joy!"*

Robert S. Flowers, MD
October 23, 1987


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## Clinical Pathologist's Easy Chair

FRANCIS H. FUKUNAGA, MD

# Gastrin

Gastric acid secretion is stimulated by the hormone, gastrin, that exists in three forms: "big-," "little-" and "mini-" gastrin.

Little gastrin (or G-17) was the first to be isolated and purified and is composed of 17 amino acids.

Big gastrin (or G-34) consists of little gastrin with an additional 17 amino acids attached to the N-terminal end. Big-gastrin predominates in serum but little-gastrin is a more potent gastric acid stimulator on a molar basis.

Mini-gastrin is not present in biologically significant amounts. The gastrins are produced by the G-cells and are released simultaneously into the bloodstream. Both little- and mini-gastrins are probably derived from the proteolytic degradation of big-gastrin within the G-cells. Little-gastrin is the predominant hormone produced by the gastrin antral G-cells and big-gastrin predominates in the G-cells in the proximal duodenum.

The normal *fasting* level of serum gastrin is approximately 50 pg/ml and is higher after meals. The most potent stimulus for gastrin secretion are the byproducts of protein digestion and of amino acids, especially tryptophan and phenylalanine; carbohydrates and fats are only minor stimulants. Gastrin secretion is normally regulated by a "feedback" mechanism. The main inhibitor of gastrin release is the gastric juice acidity. Gastrin secretion falls when gastric pH decreases from 4.0 to 2.0.

The only disorders of gastrin secretion are related to elevated levels. The high normal to low abnormal range (about 150 to 300 pg/ml) is usually the

most difficult to evaluate. There is no universal normal range for serum gastrin because of the variations with age, race and geographic location, length of fasting and the gastrin test method it self. The mean gastrin level in normal people below age 20 is about 40% below those over age 60 due to the reduced acid secretion in the older age group. The normal range for each population studied must be established to determine the limits of the borderline range[1].

Hypergastrinemia can occur with or without gastric acid hypersecretion. Concurrent hyperchlorhydria is seen with the Zollinger-Ellison syndrome, G-cell hyperplasia and gastric outlet obstruction in some patients.

The typical Zollinger-Ellison Syndrome (ZES) patient shows gastric hypersecretion and hypergastrinemia (predominantly big-gastrin) with ulcers located atypically, and with diarrhea and steatorrhea due to the acid inactivation of pancreatic lipase. Most gastrinomas are found in the pancreas, duodenum, or stomach but a few have been found at other sites[2]. ZES is characterized by an excessive gastric basal acid output (BAO) that approaches the maximal acid output (MAO). Before the laboratory test method for gastrin was developed, the diagnosis of ZE syndrome was based upon a BAO of over 15 mEq/hour or a BAO:MAO ratio of >0.6. However, this BAO level and BAO:MAO ratio are seen more frequently in patients with idiopathic duodenal, anastomotic and recurrent ulcers. The typical gastrinoma patient has serum gastrin levels of > 500 pg/ml, but about 50% may have lower levels that overlap with non-gastrinoma patients. Elevated serum gastrin is also seen with pyloric obstruction, following vagotomy, retained antrum and in a few patients with peptic ulcers without gastrinomas.

The secretin stimulation of gastrin secretion has been found to be valuable in the diagnosis of gastrinomas. The response to secretin is prompt and the peak serum gastrin level is reached with 5 minutes in most patients with gastrinomas. Duodenal ulcer patients without a gastrinoma showed a moderate increase while patients with hypergas-

*(Continued)* ▶


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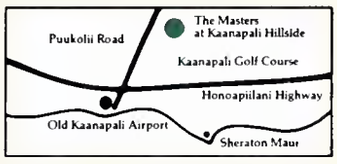







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trinemia associated with hypochlorhydria showed a gradual decrease of serum gastrin below the baseline at 30 minutes. The response to calcium infusion is gradual, with a serum gastrin peak in about 4 hours[3].

Antral G-cell hyperplasia differs from the ZE syndrome by the fact that there is hypersecretion of gastrin after a protein meal. The treatment of choice is antrectomy. Gastric outlet obstruction also may cause hypergastrinemia in some patients.

Hypergastrinemia is seen in other conditions. Gastrin levels increase with age because gastric hypochlorhydria is common in elderly patients; in the atrophic gastritis of pernicious anemia; in chronic renal failure because the kidneys are a site of gastrin degradation; in patients with massive small bowel resections also because of loss of a site of gastrin degradation; in some patients with gastric ulcer with concurrent hypochlorhydria; with a retained gastric antrum in a Billroth II resection because of the lack of acidification of the antral segment; and in some cases of pheochromocytomas. ■


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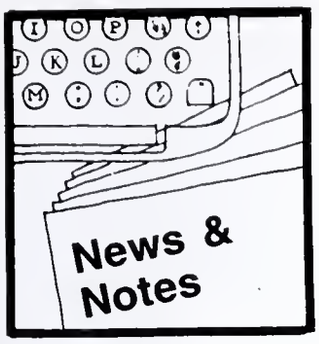
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HENRY YOKOYAMA, MD

## Miscellany

A foreign student enrolled in an English conversation class taught by a plump but attractive woman teacher . . . The class was learning to use 3 syllable words . . . "Now Tony, use the word *beautiful* in a sentence." "Teacher, you have a beautiful face . . . "That's fine . . . Now use *wonderful* in a sentence." "Teacher, you have a wonderful figure . . ." "Now Tony, use urinate in a sentence . . ." "Well Teacher, you're an 8, but could be a 10. . ."

(As told by Betty Anderson, our intellectual humorist)

## Life in These Parts

An early 70's model green Plymouth sedan with smashed left rear light and fender had the following bumper stickers: "Easy Does It!" and "Caution! Explosive Temper!" (But alas! the stickers had not warded off the rear ender . . .)

"A woman heard that mini skirts were on the way back . . . She searched through her closet and found a miniskirt of old and tried it on . . . Then a dilemma . . . She didn't know what to do with her other leg . . ."

(Paul Harvey on KHVH)

## *State Hospital in the News*

In the wake of a highly critical US Justice Dept. report in March, the Hawaii State Hospital planned to close 15 acute beds in April and stop accepting patients from hospital ERs in an effort to improve the staff-patient ratio. But this pressures private and community hospitals to treat their mental patients until stable before referring them to the state institution for long term care . . . Hawaii psychiatrists were unhappy because "poor people in need of attention won't be able to get it." Mark Stitham, president of the Hawaii Psychiatric Society says, "Patients potentially dangerous to themselves will not get locked facility psychiatric treatment and will be discharged back to the streets." Deputy state health director Henry Foley labeled Stitham's statement "appalling" and denied that the state hospital was discharging patients prematurely. "No one's being dumped out of the Pali ward into the street."

In line with the same federal audit which criticized the number of unbreakable shower rods and exposed overhead pipes, the state hospital covered the exposed pipes and replaced the shower curtain rods with flexible plastic rods . . . Yet a 62-year-old chronically depressed patient somehow managed to hang himself when one of the

▶





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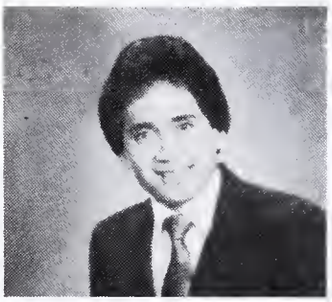
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Robert Sussman, M.D., Medical Director



new rods supported the weight of his small thin body . . . Henry Foley, deputy DoH director was investigating why the rods did not break as they were supposed to . . .

(Ed. When the decks are stacked, you just can't win . . .)

## Teenage AIDS

The AMA Journal reports that about 1 in 3,000 teenagers applying for military service between 1985 and 1989 tested positive for AIDS. The infection was more common in blacks than in Hispanics and whites . . .

## The RN Shortage

The Fed government reports that there will be adequate numbers of physicians and other health professionals through the year 2000, but the shortage of nurses is expected to worsen, even though the number of nurses had grown from 750,000 in 1970 to 1.6 million in 1988.

## Elected, Honored & Appointed

The Hawaii Chapter of the American College of Physicians chose Robert Nordyke, Straub Nuclear Med Dept, for its Laureate Award this year . . . Last year's recipient was Fred Gilbert Jr, also a member of the Straub Nuclear Med Dept...

The Commonwealth of the Northern Mariana Islands and Intercontinental Medical Services agreed to a comprehensive program of health care and dialysis of end stage kidney disease patients at the Saipan Health Center. Dudley Seto, chief executive officer and medical director of Intercontinental Medical Services will oversee the care of dialysis patients and provide management...

## Hors de Combat

Nurses have limited authority to prescribe medication in 28 states . . .

When such a bill was introduced in the legislature, all hell broke loose . . . Dr. Lois Fishler appeared before a joint Senate Committee and spoke her mind: "If nurses want to prescribe medicine, they should go to medical school. It takes my sense of reality away to think that medicine is going to be more diluted than it already is." State Health Director John Lewin, however, supports the intent of the bill and wants a year to develop rules and regulations . . .

Other physicians just as adamantly opposed a resolution for a study to determine if psychologists should be able to prescribe drugs.

## Conference News

"Prevention of Stress Ulcers" Lecture by R. A. Kozarok, Chief of GI, Virginia-Mason Clinic, Seattle, WA., Glaxo Makaha Symposium 4-8-90.

A. Incidence: 1960's, Stress ulcers with massive bleeding in 60% of ICU patients with 80% mortality . . . Today, 20% incidence with 6% mortality.

B. Pathophysiology:

a. Gastric acid hypersecretion or,

b. Lowered mucosal defenses, or both . . . Most patients have impaired mucosal defenses secondary to 1) impaired ability to impede $H^+$ions, 2) diminished ability to secrete -$HCO_3$ 3), diminished ability to maintain intact mucous layer.

*Underlying phenomenon: a. Hypotension; b. Shock; c. Splenic vasoconstriction; d. Decreased -$HCO_3$ production.

C. Risk Factors: 1) Burns; 2) Respiratory failure with mechanical ventilation; 3) Head trauma; 4) Major surgical procedures; 5) Shock; 6) Renal failure; 7) DIC; 8) Hepatic failure.

*The most important predicators for stress ulcer: 1) Mechanical ventilation; 2) Malignancy; 3) Sepsis.

D. Therapy: 1) Maintain gastric pH 4 to 5 (Inactivates pepsin and neutralizes 99% of gastric acid); 2) Gold standard: Antacid through NG tube to keep pH 4+. (Reduces incidence of stress ulcers from 30% to less than 10%; reduces bleeding; 3) $H_2$ Blockers: a. Bolus of Cimetidine or Ranitidine ineffective in maintaining pH over 4 for 1 to 4 hrs. b. IV $H_2$ Blockers will keep pH over 4 in 80 to 90% of patients eg Cimetidine 50mg/hr or Ranitidine 200mg/d.

*Higher incidence of gram negative pneumonias with antacid and $H_2$ Blockers — Altemative is to use Sucralfate q 6 hrs . . .

E. Future Trends: 1)Synergistic effect of prostaglandins used with IV $H_2$ Blockers; 2) Combination of pirenzepine (selective anticholinergic agent) with IV $H_2$ Blockers; 3) ATPase proton pump inhibitors (Omeprazole)

## Oncology Dialogue

A 68-year-old caucasian male was found to have a prostatic nodule, an aortic aneurysm and an asymptomatic large distal esophageal tumor all on a routine physical exam . . . Surgeon Glenn Kokame described the patient as a large obese caucasian with protuberant abdomen . . . The operation was difficult and had to be done in 2 stages which took all of 6½ hours . . . Pathologist Larry McCarthy described the 2x5 cm oval esophageal tumor as adenocarcinoma and reported the periaortic and celiac nodes negative . . . Fellow pathologist Grant Stemmerman elucidated: "The patient features the 3 classical factors for esophageal cancer . . . Obesity, smoker and hiatal hemia . . . The epidemiology is the same for both distal esophageal Ca and gastric Ca . . . We are now assembling data on the role of nitroso compounds . . . The patient has a 95% 5-year survival . . ." Glenn asked, "What shall we do with this prostatic nodule and aortic aneurysm?" Stemmy: "Leave them alone. The prognosis is good if there are no tumor cells in that vein (referring to one of Larry's slides) . . ." "95% 5-year survival," he reiterated. Everyone agreed that adjuvant therapy was not indicated . . ."

## The Medical Sleuth

A 70-year-old woman suddenly had her vision blur in one eye while driving home one afternoon. She had no pain, double vision or halo and peripheral vision was normal. The bright sunlight was particularly bothersome. When she got home and looked in the mirror, the pupil of the affected eye was dilated. Four hours later, the condition remained the same . . . She called her physician who could not explain the condition, but who thought of a possible retinal separation and advised her to go to Tripler ER because she was a military dependent.

The doctor on duty examined her carefully, found no pathology except for the fixed, dilated pupil. He probed further. "Have you been using eyedrops?" "No." "Have you been putting eyedrops into someone else's eyes?" "No. Wait a minute," she said, "I do have a blind poodle and

▶



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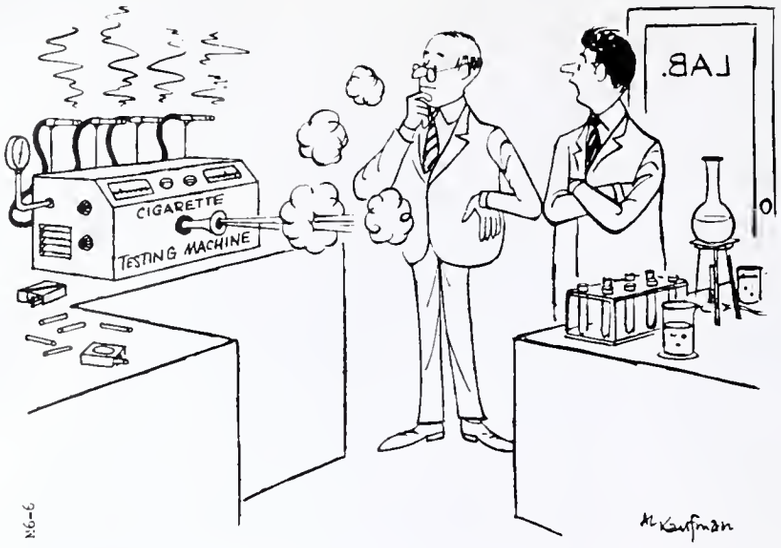
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## NEWS AND NOTES *(Continued)*

the Vet has me putting drops into his eyes."

Aha! The astute medical sleuth (probably a Tripler resident) learned that the recalcitrant poodle was non-compliant and the drops had spilled on her fingers. He deduced that when she rubbed her own eyes, the atropine had probably gotten into the one eye . . .

(Contributed by Fred Reppun Jr)

### Miscellany

What's the difference in response after making love to a prostitute, a girl friend and your wife?

The prostitute says, "Was it a good deal?"

The girl friend says, "Was it as good for you as it was for me?"

The wife says, "Hmmmm . . . I think I'll paint the ceiling beige . . ."

(As told by John Howett, our favorite DISTA rep)

An attractive young lady golfer clad scantily went to the club pro to brush up her game . . . After a vigorous half-hour lesson, she felt inspired to play nine holes . . . Her swing was flawless and she parred the first hole. She hit a perfect drive on the second tee. Just as she crouched for her second shot, a bee stung her in a vital spot. She dropped everything and ran back to the pro shop yelling, "A bee stung me! A bee stung me!" The pro asked, "Where did you get stung?" "Between the first and second holes!"

(Another John Howett gem . . .)



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*References*

1. *USP DI Update, September/October 1988, p 120.*
2. *Br J Clin Pharmacol 1985;20:710-713.*
3. *Data on file, Lilly Research Laboratories.*
4. *Scand J Gastroenterol 1987;22(suppl 136):61-70.*
5. *Am J Gastroenterol 1989;84:769-774.*


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**Contraindication.** Known hypersensitivity to the drug. Use with caution in patients with hypersensitivity to other $H_2$-receptor antagonists.

**Precautions:** *General*—1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

2. Dosage should be reduced in patients with moderate to severe renal insufficiency.

3. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

*Laboratory Tests*—False-positive tests for urobilinogen with Multistix® may occur during therapy.

*Drug Interactions*—No interactions have been observed with theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and wartarin. Axid does not inhibit the cytochrome P-450 enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

*Carcinogenesis, Mutagenesis, Impairment of Fertility*—A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a two-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

*Pregnancy—Teratogenic Effects—Pregnancy Category C*—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

*Nursing Mothers*—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

*Pediatric Use*—Safety and effectiveness in children have not been established.

*Use in Elderly Patients*—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

**Adverse Reactions:** Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events was due to the drug.

*Hepatic*—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to three times the upper limit of normal, however, did not significantly differ from that in placebo patients. Hepatitis and jaundice have been reported. All abnormalities were reversible after discontinuation of Axid.

*Cardiovascular*—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

*CNS*—Rare cases of reversible mental confusion have been reported.

*Endocrine*—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

*Hematologic*—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another $H_2$-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

*Integumental*—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

*Hypersensitivity*—As with other $H_2$-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Because cross-sensitivity among this class has been observed, $H_2$-receptor antagonists should not be administered to those with a history of hypersensitivity to these agents. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

*Other*—Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizabdine have been reported.

**Overdosage:** Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance by approximately 84%.

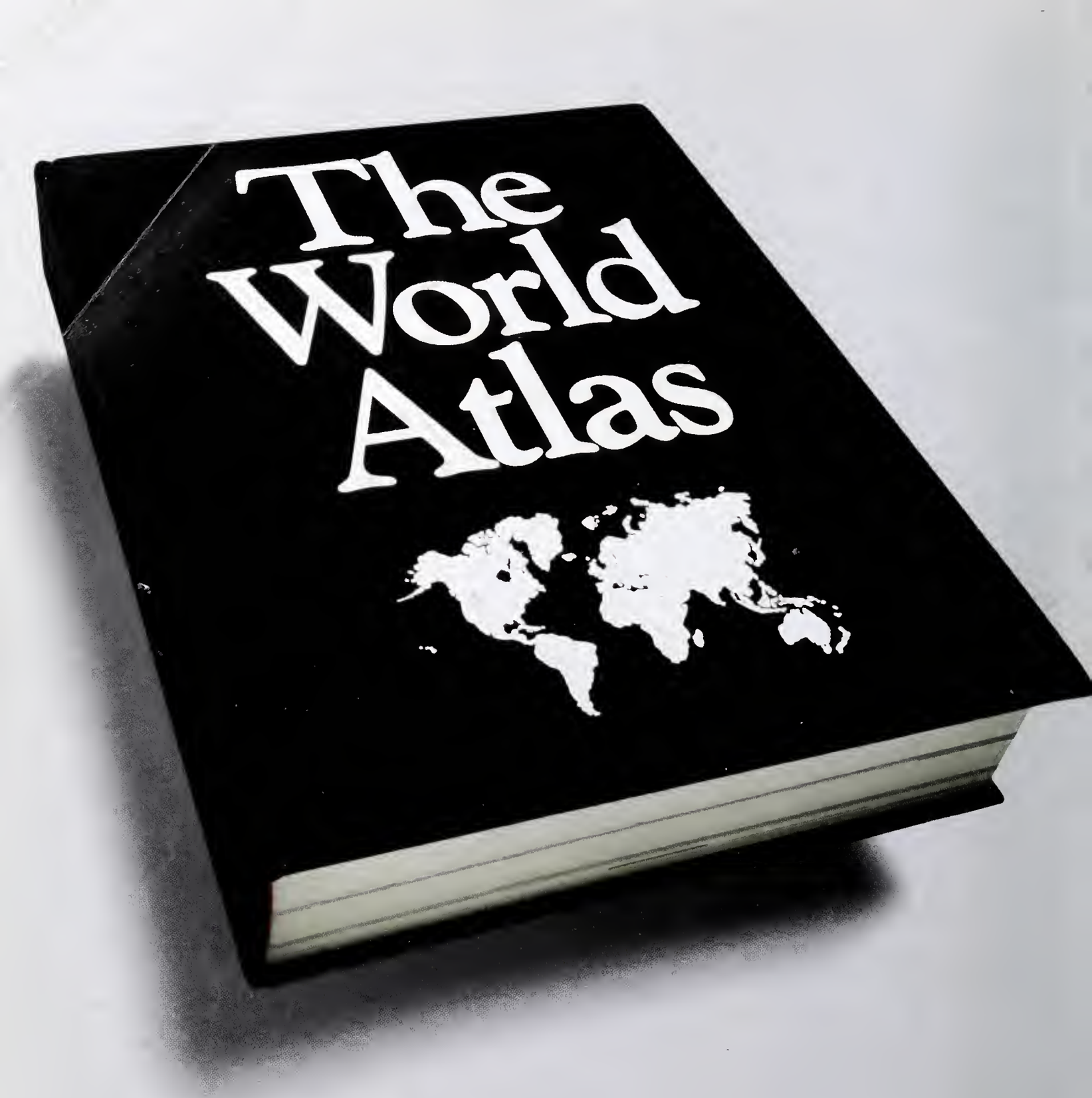
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## CONTENTS

**EDITORIALS** 289
**A truism ne plus ultra**
**Professional ethics**
J.I. Frederick Reppun MD

**LETTERS TO THE EDITOR** 290

**COMMITTEE REPORTS** 290

**PROFESSIONAL ETHICS IN HEALTH CARE: AN INTRODUCTION** 292
Kenneth Kipnis, PhD

**L-TRYPTOPHAN-RELATED EOSINOPHILIA-MYALGIA SYNDROME: A CASE REPORT** 295
Carlson B. Wong MD
James Love MD
Eugene Pon MD
Alfred G. Scottolini MD
Anthony A. Manoukian MD

**OUTCOME FOLLOWING OPEN-HEART SURGERY IN AN ORIENTAL OCTAGENARIAN POPULATION IN HAWAII** 303
Andrew C. Dixon MD
Leslie Ito MD
Osamu Fukuyama MD

**A TESTIMONIAL WELL DESERVED: PAULINE G. STITT MD** 309
Walter B. Quisenberry MD

**CHANCE, THE PREPARED MIND AND CHILDREN WITH HANSEN'S DISEASE** 309
Pauline G. Stitt MD

**NEWS AND NOTES** 313
Henry Yokoyama MD

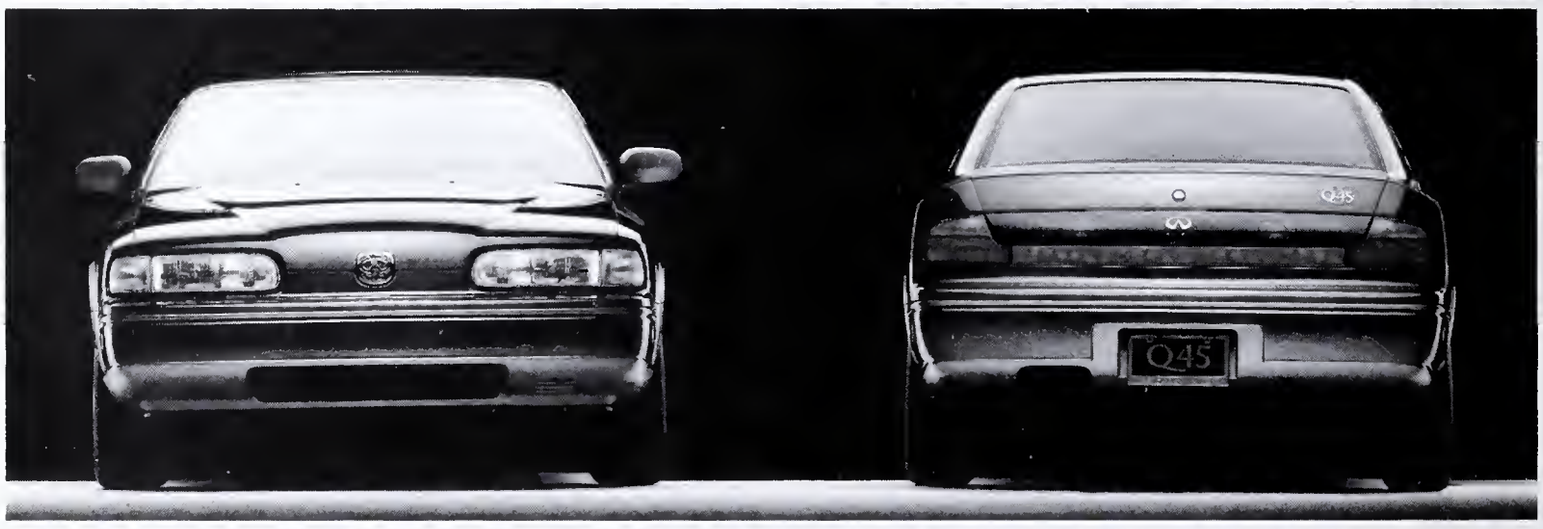
**MAKA O KA KAUKA** 316
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A diminished antihypertensive effect toward the end of the dosing interval can occur in some patients.

For a Brief Summary of Prescribing Information, please see the last page of this advertisement.

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# VASOTEC®

## (ENALAPRIL MALEATE | MSD)

VASOTEC is available in 2.5-mg, 5-mg, 10-mg, and 20-mg tablet strengths.

**Contraindications:** VASOTEC® (Enalapril Maleate, MSD) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

**Warnings:** *Angioedema* Angioedema of the face, extremities, lips, tongue, glottis, and/or larynx has been reported in patients treated with ACE inhibitors, including VASOTEC. In such cases, VASOTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been confined to the face and lips, the condition has generally resolved without treatment, although antihistamines have been useful in relieving symptoms. Angioedema associated with laryngeal edema may be fatal. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mL to 0.5 mL), should be promptly administered.** (See ADVERSE REACTIONS.)

*Hypotension* Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Patients with heart failure given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed, caution should be observed when initiating therapy (See DOSAGE AND ADMINISTRATION.) Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion of any etiology. It may be advisable to eliminate the diuretic (except in patients with heart failure), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIONS, *Drug Interactions* and ADVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the first two weeks of treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident. If excessive hypotension occurs, the patient should be placed in the supine position and, if necessary, receive an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further doses of VASOTEC, which usually can be given without difficulty once the blood pressure has stabilized. If symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant diuretic may be necessary.

*Neutropenia/Agranulocytosis.* Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

**Precautions:** *General: Impaired Renal Function:* As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

**Evaluation of patients with hypertension or heart failure should always include assessment of renal function.** (See DOSAGE AND ADMINISTRATION.)

*Hyperkalemia* Elevated serum potassium (>5.7 mEq/L) was observed in approximately 1% of hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with VASOTEC. (See *Drug Interactions.*)

*Surgery/Anesthesia* In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

*Information for Patients.*

*Angioedema:* Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

*Hypotension* Patients should be cautioned to report lightheadedness, especially during the first few days of therapy. If actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

*Hyperkalemia* Patients should be told not to use salt substitutes containing potassium without consulting their physician.

*Neutropenia* Patients should be told to report promptly any indication of infection (e.g., sore throat, fever) which may be a sign of neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

*Drug Interactions:*

*Hypotension: Patients on Diuretic Therapy:* Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and DOSAGE AND ADMINISTRATION.)

*Agents Causing Renin Release:* The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

*Other Cardiovascular Agents:* VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyldopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence of clinically significant adverse interactions.

*Agents Increasing Serum Potassium:* VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

*Lithium:* Lithium toxicity has been reported in patients receiving lithium concomitantly with drugs which cause elimination of sodium, including ACE inhibitors. A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation of both drugs. It is recommended that serum lithium levels be monitored frequently if enalapril is administered concomitantly with lithium.

*Pregnancy—Category C:* There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enalaprit to pregnant hamsters.

There are no adequate and well-controlled studies of enalapril in pregnant women. However, data are available that show enalapril crosses the human placenta. Because the risk of fetal toxicity with the use of ACE inhibitors has not been clearly defined, VASOTEC® (Enalapril Maleate, MSO) should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Postmarketing experience with all ACE inhibitors thus far suggests the following with regard to pregnancy outcome. Inadvertent exposure limited to the first trimester of pregnancy has not been reported to affect fetal outcome adversely. Fetal exposure during the second and third trimesters of pregnancy has been associated with fetal and neonatal morbidity and mortality.

When ACE inhibitors are used during the later stages of pregnancy, there have been reports of hypotension and decreased renal perfusion in the newborn. Oligohydramnios in the mother has also been reported, presumably representing decreased renal function in the fetus. Infants exposed *in utero* to ACE inhibitors should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support of blood pressure and renal perfusion with the administration of fluids and pressors as appropriate. Problems associated with prematurity such as patent ductus arteriosus have occurred in association with maternal use of ACE inhibitors, but it is not clear whether they are related to ACE inhibition, maternal hypertension, or the underlying prematurity.

*Nursing Mothers.* Milk in lactating rats contains radioactivity following administration of $^{14}C$ enalapril maleate. It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be exercised when VASOTEC is given to a nursing mother.

*Pediatric Use* Safety and effectiveness in children have not been established.

**Adverse Reactions:** VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 2987 patients.

*HYPERTENSION:* The most frequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were: diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

*HEART FAILURE* The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial infarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each category:

*Cardiovascular* Cardiac arrest, myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*); pulmonary embolism and infarction; pulmonary edema, rhythm disturbances, atrial fibrillation, palpitation.

*Digestive* Ileus, pancreatitis, hepatitis (hepatocellular or cholestatic jaundice), melena, anorexia, dyspepsia, constipation, glossitis, stomatitis, dry mouth.

*Musculoskeletal:* Muscle cramps.

*Nervous/Psychiatric:* Depression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

*Urogenital:* Renal failure, oliguria, renal dysfunction (see PRECAUTIONS and DOSAGE AND ADMINISTRATION).

*Respiratory:* Bronchospasm, rhinorrhea, sore throat and hoarseness, asthma, upper respiratory infection.

*Skin:* Exfoliative dermatitis, toxic epidermal necrolysis, Stevens-Johnson syndrome, herpes zoster, erythema multiforme, urticaria, pruritus, alopecia, flushing, hyperhidrosis.

*Special Senses:* Blurred vision, taste alteration, anosmia, tinnitus, conjunctivitis, dry eyes, tearing.

A symptom complex has been reported which may include a positive ANA, an elevated erythrocyte sedimentation rate, arthralgias/arthritis, myalgias, fever, serositis, vasculitis, leukocytosis, eosinophilia, photosensitivity, rash, and other dermatologic manifestations.

*Angioedema:* Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

*Hypotension:* In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause for discontinuation of therapy in 1.9% of patients with heart failure. (See WARNINGS.)

*Clinical Laboratory Test Findings.*

*Serum Electrolytes:* Hyperkalemia (see PRECAUTIONS), hyponatremia.

*Creatinine, Blood Urea Nitrogen:* In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation of VASOTEC and/or other concomitant diuretic therapy, were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients.

*Hemoglobin and Hematocrit* Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g% and 1.0 vol %, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% of patients discontinued therapy due to anemia.

*Other (Causal Relationship Unknown)* In marketing experience, rare cases of neutropenia, thrombocytopenia, and bone marrow depression have been reported. A few cases of hemolysis have been reported in patients with G6PD deficiency.

*Liver Function Tests* Elevations of liver enzymes and/or serum bilirubin have occurred.

**Dosage and Administration:** *Hypertension.* In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, if possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) If the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed.

If the diuretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*)

The recommended initial dose in patients not on diuretics is 5 mg once a day. Dosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses. In some patients treated once daily, the antihypertensive effect may diminish toward the end of the dosing interval. In such patients, an increase in dosage or twice-daily administration should be considered. If blood pressure is not controlled with VASOTEC alone, a diuretic may be added.

Concomitant administration of VASOTEC with potassium supplements, potassium salt substitutes, or potassium-sparing diuretics may lead to increases of serum potassium (see PRECAUTIONS).

*Dosage Adjustment in Hypertensive Patients with Renal Impairment* The usual dose of enalapril is recommended for patients with a creatinine clearance > 30 mL/min (serum creatinine of up to approximately 3 mg/dL). For patients with creatinine clearance ≤ 30 mL/min (serum creatinine ≥ 3 mg/dL), the first dose is 2.5 mg once daily. The dosage may be titrated upward until blood pressure is controlled or to a maximum of 40 mg daily.

*Heart Failure:* VASOTEC is indicated as adjunctive therapy with diuretics and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose of VASOTEC, the patient should be observed under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*) If possible, the dose of the diuretic should be reduced, which may diminish the likelihood of hypotension. The appearance of hypotension after the initial dose of VASOTEC does not preclude subsequent careful dose titration with the drug, following effective management of the hypotension. The usual therapeutic dosing range for the treatment of heart failure is 5 to 20 mg daily given in two divided doses. The maximum daily dose is 40 mg. Once-daily dosing has been effective in a controlled study, but nearly all patients in this study were given 40 mg, the maximum recommended daily dose, and there has been much more experience with twice-daily dosing. In addition, in a placebo-controlled study which demonstrated reduced mortality in patients with severe heart failure (NYHA Class IV), patients were treated with 2.5 to 40 mg per day of VASOTEC, almost always administered in two divided doses. (See CLINICAL PHARMACOLOGY, *Pharmacodynamics and Clinical Effects.*) Dosage may be adjusted depending upon clinical or hemodynamic response. (See WARNINGS.)

*Dosage Adjustment in Patients with Heart Failure and Renal Impairment or Hyponatremia* In patients with heart failure who have hyponatremia (serum sodium < 130 mEq/L) or with serum creatinine >1.6 mg/dL, therapy should be initiated at 2.5 mg daily under close medical supervision. (See DOSAGE AND ADMINISTRATION, *Heart Failure,* WARNINGS, and PRECAUTIONS, *Drug Interactions.*) The dose may be increased to 2.5 mg b.i.d., then 5 mg b.i.d. and higher as needed, usually at intervals of four days or more, if at the time of dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

*For more detailed information, consult your MSD Representative or see Prescribing Information, Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, PA 19486.* J9VS61R2(819)

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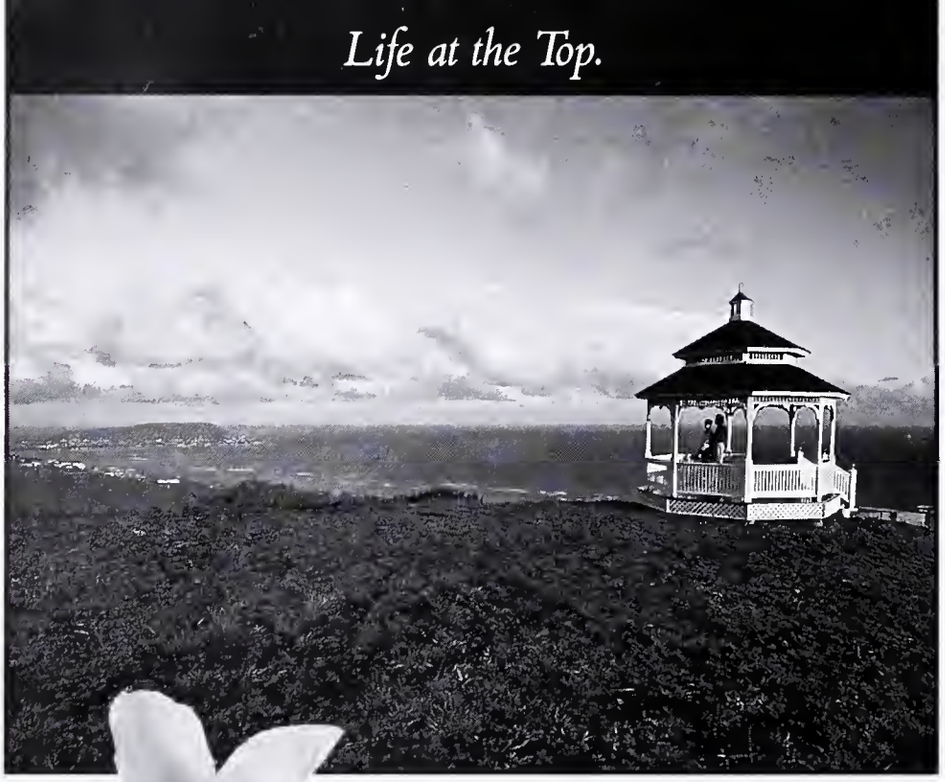
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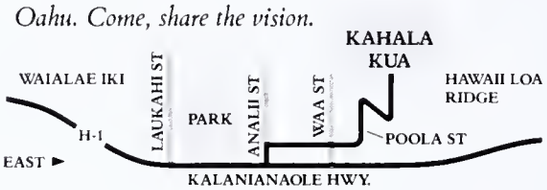
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**AUTOMOBILE**

LUXURY CAR COMPARISON

| | Audi V8 | BMW 535i | Infiniti Q45 | Lexus LS 400 | Mercedes 300E |
|---|---|---|---|---|---|
| ENGINE | 3 | 7 | 11 | 10 | 3 |
| TRANSMISSION | 5 | 4 | 9 | 9 | 1 |
| RIDE | 1 | 5 | 5 | 10 | 5 |
| HANDLING | 9 | 7 | 6 | 8 | 6 |
| NVH (Quietness) | 1 | 6 | 6 | 14 | 6 |
| EXTERIOR | 4 | 9 | 4 | 7 | 4 |
| INTERIOR | 3 | 7 | 5 | 7 | 5 |
| COMFORT | 2 | 5 | 7 | 9 | 5 |
| ENTHUSIAST'S CAR | 9 | 10 | 5 | 7 | 5 |
| BEST VALUE | 3 | 4 | 5 | 9 | 3 |
| **TOTAL** | **40** | **64** | **63** | **90** | **43** |

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# A truism ne plus ultra

We found this in the *NEJM* of 7 June 1990 on page 1676 under *Correspondence,* the closing paragraph of a letter-to-the-editor by Uriel S. Barzel MD of Montefiore Medical Center in the Bronx; and we quote:

> "Clearly then, from the vantage point of the Health Care Financing Administration and large employers, whose interest it is to limit and control the overall cost of medical care in the community, cost effectiveness is an oxymoron. The only case that is truly cost-effective from such a point of view would be that of someone who has never been seriously ill, is brought by emergency services to the hospital after collapsing in the street, and is pronounced dead on arrival. This case would be [even more] cost effective if the [deceased] had just retired [without having had a chance to enjoy any benefits therefrom], having contributed throughout his productive years to health insurance, Social Security and Medicare." [Editorial substitutions.]

To this we add a hearty Amen! By contrast, consider the 70-year-old bloke who is CPRed back to life, has a cabbage operation and a week later a massive CVA and gets transferred to a nursing home in a PVS. Anyone care to guess the cost/benefit ratio of that one? Let's pour it on thicker: "The case" had previously undergone bilateral catarectomies with lenticular implants, a cholecystectomy, a TURP and several endarterectomies since retirement.

In our society, no one, as yet, begrudges the medical response to the latter case. So . . . what's all the fuss over the percent of GNP for health care? Let's eliminate one more stealth bomber.

Surely our readers don't need an explanation of the acronyms and medical slang we used!

J.I. Frederick Reppun, MD
Editor

# Professional ethics

Professor Kenneth Kipnis at the University of Hawaii is well-known to his many audiences and to many of us who have heard him expound on the ethics of medical practice. In this issue of the Journal, he provides us with an introduction to the subject, which we hope to continue in forthcoming issues; it is an introduction in the sense that he calls it "professional ethics" rather than just "medical ethics."

What is meant by the term "ethics?" It needs to be specified. Our 1956 Funk & Wagnalls Practical Standard dictionary puts it as follows:

(a) It comes from the Greek word ethos, meaning character;

(b) the standard of character set up by any race or nation;

(c) the study and philosophy of human conduct, with emphasis on the determination of right and wrong;

(d) the basic principles of right action.

As the reader follows Ken's treatise on the subject, he or she will note that Kipnis uses a wide-angle lens, but does inescapably zoom in on the medical.

We withold comment in depth for the moment, except to point out to the reader a political aspect of human interrelationships, or ethics, affecting our general community at the moment: The clash between what people in Japan, as an "Eastern" society, holding institutional values as well as personal ones that are, in its eyes, "ethically correct," approach a potential business deal by bearing offertory gifts — to smooth the way — as compared with our Western attitude of it being "ethically incorrect" to "bribe" or "influence" ie to "coerce" the other party from the start. If Westerners can only realize that Easterners are attempting to generate a spirit of dealing as friends, rather than as enemies, life would be easier in Hawaii. The ethic is the same, but the understanding of it is what's different!

J.I. Frederick Reppun MD
Editor




# Re: News and Notes by Henry Yokoyama, HMJ June 1990

> "Health Director John Lewin corrected some of the misleading statements made by Dr. Lorraine Day during a lecture at the State Capitol January 10 re: occupational exposure to HIV — eg. 'The test to determine whether a person has the disease *may* remain negative for up to three years.' Jack writes, 'Although *this is true* for a few documented cases, more than 95% of the population will seroconvert within 2 to 12 weeks.'"

How did Dr. Lewin correct that misleading statement?

> "Another example is her statement that HIV *can* be transmitted by saliva. There have been no documented cases of HIV transmitted in this way." (Statement in entirety, italics mine.)

Dr. Day actually said HIV *may* be transmitted by saliva. References to possible cases may be found in Lancet page 1418 in '84, 694 in '86, and 1418 in '88; full references on request.

When a Public Health official makes ambiguous, incorrect, or later-proven-wrong statements, we lose confidence in that official, in the accuracy of any statements, and in the motives of those making them. If this is an incomplete or incorrect quote, Dr. Lewin should request a retraction.

Frank E. Ceccarelli, MD

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# Committee Reports

## HMA Chronic Illness & Aging Committee May 23, 1990

This HMA committee met on May 23 under the chairmanship of Walter Quisenberry and the co-chair M. Lou Hefley. Those attending included: Walter Quisenberry, M. Lou Hefley, James Lumeng, Samuel Allison, Reuben Guerrero, R. Gary Johnson, J.I. Frederick Reppun, Praphan Puapong, Verne Waite from DoH, Edna Lau, Straub Clinic's Sharon Otani and staff members Jan Estioko and Karen Hamada.

The guest speaker was Suzanne Baribault RN. She is the Director of Nursing Home Without Walls (NHWW) which is under the State Department of Human Services (DHS).

NHWW came into being in 1983, serving only Honolulu. At the present time it services not only all of Oahu but also the neighbor islands. It is funded 50:50 by the State and the feds. The recent legislative session allotted only $400,000 out of a requested $750,000. As a consequence, NHWW's services are "capped" by lack of funding. It is allowed a maximum of 350 cases on its roster but at the moment has a case load of 215 of which 120 are Oahu residents; there is a waiting list of 130. It takes 6 to 9 months to process an applicant. The majority of its patients are ICF; 20% are in the category of being SNF.

The program was designed to serve the seriously and chronically ill of all ages with the intention of increasing their quality of life at home and to prevent burdensome and expensive recidivism in in-hospital and emergency room care. At the present time, each client must be Medicaid eligible, but the program may be extended in time to include the "gap groups". There also may be a possibility of joining up with the Maluhia Project which has similar purposes and goals and somewhat more generous Fed/State funding.

The program is one of case management essentially — a concept that is well-received by physicians and others who do not have the time nor the expertise to do all the necessary legwork to effect a successful outcome. It is having problems with staffing, of course. Additional good news is that the program can arrange for "chore services" as well, something that is badly needed by the invalid home-bound person without a supporting family, or one that has a family unable to provide those essentials.

Of particular interest was Baribault's statement that more and more children are requiring this type of care.

So far, the patients' primary physicians have been willing to serve and be cooperative; routine visits to check on the patient and up-date the Care Plan need not be more often than 120 days.

HMA members were urged to lobby harder in the next legislative session for increased funding of the program.

J.I. Frederick Reppun, MD
committee member



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*References*
1. USP DI Update, September/October 1988, p 120.
2. Br J Clin Pharmacol 1985;20:710-713.
3. Data on file, Lilly Research Laboratories.
4. Scand J Gastroenterol 1987;22(suppl 136):61-70.
5. Am J Gastroenterol 1989;84:769-774.


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*Carcinogenesis, Mutagenesis, Impairment of Fertility*—A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a two-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

*Pregnancy—Teratogenic Effects—Pregnancy Category C*—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

*Nursing Mothers*—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

*Pediatric Use*—Safety and effectiveness in children have not been established.

*Use in Elderly Patients*—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

**Adverse Reactions:** Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events was due to the drug.

*Hepatic*—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGDT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to three times the upper limit of normal, however, did not significantly differ from that in placebo patients. Hepatitis and jaundice have been reported. All abnormalities were reversible after discontinuation of Axid.

*Cardiovascular*—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

*CNS*—Rare cases of reversible mental confusion have been reported.

*Endocrine*—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

*Hematologic*—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another $H_2$-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

*Integumental*—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

*Hypersensitivity*—As with other $H_2$-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Because cross-sensitivity among this class has been observed, $H_2$-receptor antagonists should not be administered to those with a history of hypersensitivity to these agents. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

*Other*—Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine have been reported.

**Overdosage:** Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance by approximately 84%.

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# Professional Ethics in Health Care: An Introduction

Kenneth Kipnis, PhD

*Discussions about issues in medical ethics are often frustrated by the failure to distinguish other concerns: legal and institutional rules, personal values, and personal moralities. Progress can be made if the medical profession reaches a prior agreement on its core values — what the good physician ought to care about — and a consensus on how these values are to be respected by physicians facing ethical dilemmas.*

## Professional competence: Technical and ethical

In general, two types of education are required for professional competency: technical and ethical. In medicine, technical education makes up well over 90% of the curriculum, covering methods for identifying health-related conditions and procedures for attending to them. Diagnosis and treatment dominate the curriculum.

Separate from the technical dimension is the ethical dimension, a domain that is often dishearteningly neglected. Professional ethics deals with practitioners' obligations toward the different parties encountered in their work. In the practice of medicine, for example, ethical issues can require the clarification of what professionals owe to the patient; what they owe to the patient's family; what they owe to affected third parties; to colleagues and to allied health care professionals; to the law; to society in general and so on. All of the physician's relationships require the elucidation of the practitioner's professional responsibility.

The following cases highlight issues of professional responsibility in health care. While the technical aspects are somewhat trivial, it is the ethical questions that are troubling.

### CASE 1: "The Suicide"

Martin Harris has been your patient since the onset of Multiple Sclerosis several years ago. As his physical incapacitation has progressed, he has talked more and more about suicide as the only way to avoid the indignity of the end-stage of his illness. Recently, he has begun to ask for your assistance in ending his life. For several months you have been prescribing medication for him which, if husbanded and taken in sufficient quantity, would give Harris the effect he seeks. May he be provided with this information?

Department of Philosophy
University of Hawaii at Manoa

### CASE 2: "The Diabetic"

Prison inmate John Smith is a diabetic who has been placed on a special diet by order of the prison medical staff. He has been hospitalized 3 times with life-threatening diabetic acidosis following ingestion of candy bars obtained from the prison canteen. Should you, as the facility's physician, initiate disciplinary procedures that will result in his loss of canteen privileges? (This case and Case 4 below ("The Gun") were devised with Kim Thorburn MD, following preliminary analysis of the results of a questionnaire distributed to members of the American Correctional Health Services Association.)

### CASE 3: "The Epileptic"

Jodie Lee is a sexually active, somewhat immature 24-year-old woman who has suffered from a recalcitrant form of epilepsy. Although a newly available medication promises to help her significantly, it imposes a 10% risk of severe birth defects should she become pregnant. A Catholic, Ms Lee is opposed to abortion and has reservations about birth control. Should she be informed of this new medication? Can it be prescribed if she requests it?

### CASE 4: "The Gun"

The warden has reliable information that inmate David Jones is sequestering a gun in his rectum. The inmate will not consent to any examination, including an x-ray. Having probable cause to perform a search, the warden directs your prison medical staff to carry it out: No other prison officers are qualified to perform body cavity searches.

### CASE 5: "The Reconciliation"

Wilma and Andrew Long have been your patients since the couple moved to Hawaii 10 years ago. Six years ago they separated and Wilma returned to the Mainland. Four years later, Andrew tested HIV+. Andrew now tells you that Wilma is returning to Hawaii for a reconciliation with him. Despite your best efforts, Andrew does not provide you with assurance that Wilma will be informed of his infection or protected against becoming infected. As her primary care physician, do you take direct steps to see that Wilma is informed?

At issue in each case are questions about what health care professionals owe to others, ie matters of professional ethics. However, before taking up what it would be like to discuss these cases as posing problems in professional ethics, it is helpful to

consider three very different discussions we might have. We could talk about (1) law and institutional policy; (2) personal values, or (3) personal morality. The purpose of the discussion that follows is to demarcate the intellectual space within which practitioners can fruitfully reflect on questions of professional responsibility. Only after sketching what professional ethics is not, can we reflect productively on what it might be.

### (1) Problems of Law and Institutional Policy:

The 5 cases can be viewed as posing problems in law or institutional policy. We define a problem in this way when we remark "There must be something in the handbook that covers this problem" or "A lawyer could tell me what to do." While it is often important to determine how laws and regulations apply, understanding legal and institutional duties is not the same as understanding professional obligations. For though it may often be true that one has an ethical obligation to conform to law and institutional policy, it is easy to find which cases in which professional ethics can be at odds with these other obligations. For example, though journalists can be ordered by a judge to disclose the identity of a confidential source, reporters often go to jail rather than violate the ethical standards of journalism. In such a case, a clear professional obligation is in conflict with an equally clear legal obligation.

If we accept legal or institutional obligations as determining professional obligations, we will be tragically unable to appreciate the tensions that can arise between the two. But if we are alive to the possibility that externally imposed rules can mandate unprofessional conduct, we can work to change the rules so that conscientious practitioners won't have to face tragic choices. We can try to bring it about that doctors have legal and institutional permission to do what they are ethically obligated to do. We can try to bring it about that doctors are not required to do what they are ethically prohibited from doing. Laws and institutional regulations, as important as they are, are not to be confused with professional responsibilities.

### (2) Problems of Personal Values

One can view the cases above as posing personal value problems. In this context, a "value" is a part of an explanation of personal conduct, a good that an action is intended to promote.

I wear shoes to avoid injury to my feet and — pushing the analysis further — I avoid injury to avoid pain. This aversion to pain is, for me, an ultimate value: I cannot account for it in terms of a more general value. But wearing shoes can have other purposes. Some do not mind pain: "No pain, no gain." For them, injury hinders achievement. Others feel their feet look better in shoes. Your values may differ: Baskin and Robbins has 31 flavors.

We can understand ourselves as having a unique hierarchy of personal values to which we can appeal in making and understanding decisions. In reviewing the cases above, we can ask ourselves how our personal values can be secured or furthered in each circumstance. It is possible to pursue "authenticity" in our lives; we can, in other words, strive to conduct ourselves in a way that expresses our deepest values. But while it is important to understand personal values, and how these can be reflected in decisions, it needs to be stressed that striving to be true to one's most fundamental values may not help one to act ethically.

For, in the first place, personal values can be contemptible. Thus, for any unethical action whatever, someone could act that way with authenticity. And more importantly, the narrow appeal to personal values can only help us to understand what this or that person ought to do. There is no room within this approach to ask what physicians in general ought to do. The appeal to personal values will not help us to settle disagreements between practitioners. If two doctors are involved in Case 2 above ("The Diabetic"), and their personal values differ, it will hardly do for the inmate John Smith to have his canteen privileges suspended when one of them is on duty but reinstated when the other takes over.

We need to be able to appeal to something beyond what will make each one of us comfortable. For some of us may be too comfortable with unethical courses of action and, given the diversity among values, there can be no professional standards — only personal standards — if all we can talk about are personal values. Understanding personal values, as important as that is, is not the same as understanding professional responsibility.

### (3) Problems of Personal Morality

By "morality" we mean a set of beliefs about one's obligations. It is commonplace that there are many such sets of beliefs, many moralities. We can talk about the morality of Jesus, of Confucius, of the ancient Romans, of the Australian aborigines. We can talk about the morality of George Bush. It is often useful to think about personal morality as something we absorbed at our mother's knee. Typically, we only become aware of it as we come into contact with others whose beliefs differ.

As important as our moralities are in social life, they are of limited usefulness in the professional context. First, since the moralities we bring with us into our professions differ, they cannot be appealed to in settling the ethical dilemmas of professional practice. If *we* must make a decision about the practice in our unit, and if our only resources are our two differing personal moralities, discussion will tend to degenerate into a dispute about whether your cultural background deserves respect (to the detriment of mine) or vice versa. Neither outcome will improve our working relationship. And second, personal morality is commonly unequal to the task of resolving the extraordinary dilemmas of professional practice. Consider, for example, the cases above: It is unlikely that any of us have, as children, received moral instruction on the ethics of inmate body cavity searches or the ethics of prescribing teratogenic medications to sexually active adult female epileptics with reservations about birth control.

### Core Professional Values and Professional Ethics

As helpful as it may sometimes be to pursue these topics, they are rarely pertinent in discussions of professional ethics. Ethics, we can say now, is merely a careful, disciplined discussion about our beliefs concerning our obligations. Professional ethics thus involves a disciplined discussion about the obligations of professionals. Although no profession is required to sustain such a conversation, standards will be imposed in any event: By the courts,

*(Continued)* ▶

by legislatures, by consumers, by third-party insurers, or by organizations that will come to employ professionals. Like everyone else, physicians do not have the option of being exempt from standards. But if medicine declines the opportunity to explore what would be involved in holding physicians to its own standards, the medical profession will be less able to participate effectively in debates about what the externally imposed standards should be. Were a consensus to exist in developing such standards, how might physicians approach the cases above as presenting problems of professional responsibility?

It is possible to distinguish between two types of values: The personal values we described above and what we can call "core professional values."

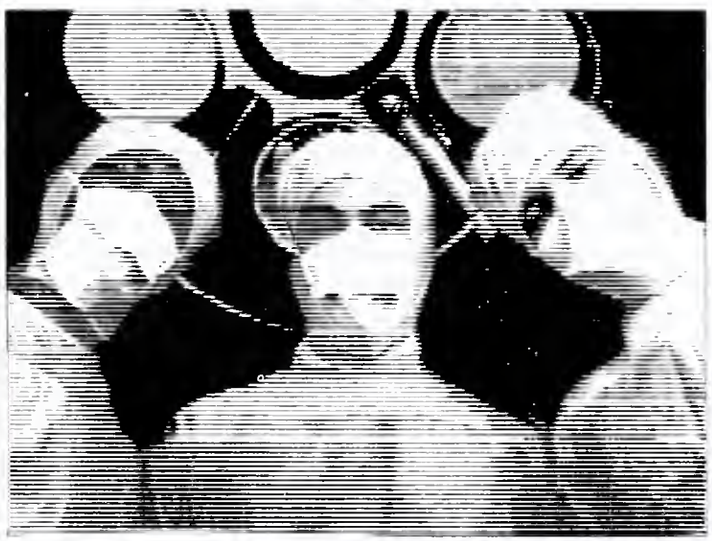
It happens that I prefer: (1) pistachios to walnuts, and (2) sound reasons to bogus ones. But whereas my preference for pistachios is merely personal, my preference for sound reasons is a value I have as a philosopher. Any philosopher who prefers phony reasons to good ones should find another career, as should any health care professional who prefers that patients suffer and die rather than get better. The value health-care professionals place on recovery is not just one they happen to have: It is a value the good health care professional *ought* to have. To understand core professional values, we must set aside what I care about, even what my colleagues care about, and take up the question of *what the good health care professional ought to care about.*

If our dialogue produces a body of core professional values — if we can, as health care professionals, enthusiastically celebrate these values — then we will have the beginnings of a conception of professional responsibility. This is because, with agreement on core professional values, we can go on to ask how these values are to be respected and furthered, and how they can be betrayed. It is not a question of law or institutional policy, nor a matter of personal values or morality. It is not even a question of what I am to do. It is rather a question of what physicians should strive to achieve in their work and what they will not and should not do. It is a question of how the good doctor is to respect the core values of medicine in the most ethically trying circumstances of professional practice.

The professions characteristically articulate their shared understandings of professional responsibility in their codes of conduct. When these provisions are grounded in the core values of health care, they can usefully empower practitioners. They can provide guidance to ethically troubled health care professionals and strengthen practitioners' capacities to identify and resist improper suggestions. A code's principles can provide a powerful justification for conscientious refusal.

As medicine continues to be challenged by external pressures, practitioners must work together to enhance their understanding of the health care professional's proper role. It may be time to set to work systematically to expose the fundamental commitments of medicine and, building on these, to articulate a shared sense of what the physician's responsibilities are in the most ethically troubling circumstances of professional practice.


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# L-Tryptophan-related eosinophilia-myalgia syndrome: A case report

Carlson B Wong MD*
James Love MD**
Eugene Pon MD***
Alfred G. Scottolini MD†
Anthony A. Manoukian MD††

*Eosinophilia-myalgia syndrome (EMS) is characterized by intense eosinophilia and, very often, debilitating generalized myalgia in the absence of infectious or neoplastic causation. The Centers for Disease Control have established that the latter two features, along with an eosinophil count greater than 1000 cells per cu mm, are criteria for the syndrome. EMS has been reported in epidemic proportions over the last several months. Early data strongly suggested that in at least a small percentage of patients the syndrome leads to death. Epidemiological work in New Mexico, Minnesota, and Oregon has linked EMS most impressively to L-tryptophan-containing products (LTCPS).*

As of April 20, 1990, 1478 cases of EMS associated with LTCPS, with 21 deaths, had been reported to the CDC by state and territorial health departments; five confirmed cases of EMS were reported in Hawaii by that date. On November 11, 1989, the Federal Drug Administration (FDA) cautioned consumers against the use of L-tryptophan-containing over-the-counter dietary supplements. Subsequently, on November 17, the FDA initiated a nationwide recall of such products containing 100 mg or more of this essential amino acid. In March of 1990 that ban was extended to over-the-counter dietary supplements containing amounts < 100 mg of tryptophan.

We report a case and autopsy results of the second confirmed patient with LTCPS-associated EMS in Hawaii and review the current data on the syndrome. Autopsy findings in this case point to multiorgan system involvement in EMS with prominent myocarditis, pulmonary and systemic vasculitis, pancreatitis, myositis, pyelitis, and neuritis. Brain and bowel were also found to be involved, though to a lesser degree.

## Case Report

An 80-year-old retired man with a history of pulmonary fibrosis and chronic depression was admitted to the hospital with shortness of breath of 3 weeks duration; it had worsened over the previous 4 days. He denied chest pain, fever, cough or sputum production. He also complained of severe bilateral thigh and leg pain which was intermittent and seemed worse at night; he had seen his physician 5 days before about the myalgias and his dyspnea. A white blood cell count of 15,400 was noted with 42% eosinophils at the time. The eosinophilia was thought possibly to be secondary to a new antidepressant medication in his regimen — bupropion — which was therefore discontinued. An outpatient chest roentgenogram showed pulmonary fibrosis, tracheal deviation and a left paratracheal mass (a multinodular goiter by CT), which were old; there were no pulmonary infiltrates or other abnormalities.

The patient's medical history was otherwise significant for having had a previous admission to the hospital for atypical chest pain 2 months earlier, during which a myocardial infarction was ruled out; a subtotal thyroidectomy in the 1950s for a right thyroid nodule, cataract surgeries and glaucoma were also recorded. He also had a 70 pack-year smoking history and denied any alcohol use.

Medications on the present admission included alprazolam 0.5 mg TID, L-thyroxin, L-tryptophan at a dose of 500 to 1500 mg per day (begun 5 months earlier), niacinamide, aspirin, timolol ophthalmic solution and sublingual nitroglycerine (grains 1/150 as needed). On review of systems, the patient reported frequent upper abdominal pain which was fairly unresponsive to ranitidine.

Physical examination revealed a slim elderly man in moderate respiratory distress, tachypneic, tachycardic (110 per minute), afebrile and normotensive. It was otherwise remarkable for jugular venous distention up to the sternal angle, bilateral crackles over the lower half of the patient's lung fields, regular cardiac rhythm with an S3, and 1-2+ pitting ankle edema bilaterally. There was no tenderness to palpation of the patient's thighs or legs.

Initial laboratory studies included arterial blood gases on 12 L of oxygen which showed a pH of 7.35, pC02 33, pO2 57 and an oxygen saturation of 88%. The patient's sodium was 138, potassium 4.5, chloride 99 and bicarbonate 26. BUN and creatinine were 22 and 1.0 respectively. Glucose was 272

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* Resident-in-training, Internal Medicine University of Hawaii Program
** Internist, Kaiser Permanente
*** Epidemiologist, State DoH
† Chief, Dept. Pathology, Kaiser Permanente
†† Resident in Pathology, UH Program

mg% initially. WBC was 12,700 with 56% neutrophils, 18% bands, 10% lymphocytes, 10% monocytes, and 5% eosinophils. Urinalysis was unremarkable. EKG revealed no acute ST-T changes. Chest roentgenogram showed pulmonary edema, pulmonary fibrosis, and bilateral pleural effusions.

He was admitted to the ICU and treated with diuretics, nitrates, and oxygen. Myocardial infarction was ruled out by cardiac enzymes and repeat EKGs. He responded fairly well and was transferred to the medical floor but remained dependent on nasal oxygen throughout his 21-day hospital course. An echocardiogram showed signs of decreased left ventricular compliance, but normal wall motion; ejection fraction was 60% by a MUGA scan which was read as normal on his sixth hospital day. These findings cast some doubt on a purely cardiac etiology of his symptoms. The patient continued to take L-tryptophan from his home supply throughout his stay. Eosinophilia developed, beginning with an absolute count of 1000 cells/mm$^3$ the day after admission, rising to a peak of 3800/mm$^3$ on day of admission and remaining in the 2-3,000 range throughout his hospital course, except for a fall to 800/mm$^3$ on the day before discharge, on day 21 (2 days before it had been 2400/mm$^3$). The workup to determine the cause of his eosinophilia included stools negative for occult blood, ova or parasites, negative rheumatoid factor and ANA, a normal C3, C4, free T4, carcinoembryonic antigen and liver function tests. The erythrocyte sedimentation rate was elevated to 86 and 72mm/hr on separate occasions. However, the patient had an intercurrent enterococcal urinary tract infection that might have accounted for this. Urine protein electrophoresis was unremarkable. Serum protein electrophoresis revealed mild non-diagnostic elevations of IgG and IgA; there was a faint IgG Kappa chain homogeneous band and mildly elevated Kappa and lambda light chain quantitations. The patient was hypoproteinemic (6.1 gm%) and hypoalbuminemic (2.6 gm%); calcium was 8.2 mg%. Skin testing with PPD, mumps, and candida revealed anergy. The patient was quite immobile while in the hospital and ambulated with assistance only over short distances and infrequently. His myalgias apparently bothered him less while he was reclining. His seeming contentment with staying in bed was attributed somewhat to a depressed state. He put forth almost no effort during the attempts at physical therapy, usually blaming his muscle aches. There apparently was no explanation for the patient's eosinophilia, and it was not until about the time of his discharge that news of EMS and its association with L-tryptophan was appreciated, leading to a consideration of this diagnosis. Tryptophan was discontinued, therefore, when he became an outpatient.

The patient was discharged home on portable oxygen and was assiduously cared for by his wife. He had a bone scan done as an outpatient and was seen by his pulmonologist and medical resident 2 weeks post-discharge. The patient was ambulating only rarely — to what degree this was due to his myalgias in light of his concurrent weakness and depression is uncertain. Overall, his respiratory status was stable, he was in fair condition and even somewhat jovial. His eosinophilia had resolved completely (1% of 9800 WBC/mm$^3$); bone scan and trichinosis serology were negative. He was seen again by his internist 2 weeks later. Much improvement in his myalgias had occurred. A CBC showed a slight eosinophilia (AEC of 940/mm$^3$). Five weeks after discharge from the hospital the patient died suddenly and unexpectedly at home.

Post-mortem examination identified an acute suppurative bilateral pneumonia as the most probable cause of death. Post-mortem blood cultures grew E. coli. Marked fibrosis of the lung parenchyma, consistent with the patient's history of pulmonary fibrosis, was present in every section. Pulmonary vasculitis was also present. There was roughly 75 cc of pleural fluid in each thoracic cavity.

Other findings at autopsy included focal mononuclear infiltrates with associated myocyte degeneration in sections of both heart ventricles (ie myocarditis), and multifocal myocardial fibrosis, but no evidence of acute myocardial infarction. The pancreas was grossly normal but on histological study revealed atrophy of the lobular parenchyma with mononuclear inflammatory infiltrates within the walls of exocrine ducts and blood vessels. Chronic active pyelitis was also noted, with scattered mononuclear inflammatory infiltrates in the renal calyceal system; renal vessels showed evidence of arteriolar nephrosclerosis.

Skeletal muscle examination revealed widespread atrophy and scattered mononuclear inflammatory infiltrates. The absence of trichinosis was confirmed histologically. Perivascular and perineural accumulations of chronic mononuclear infiltrates also were prominent at multiple sites including the central nervous system. Centrilobular necrosis and fatty metamorphosis of the liver were also noted as was a multinodular colloid goiter of the patient's thyroid gland remnant. Lymph nodes were unremarkable. Bone marrow and skin histological examinations were not reported.

**Case Discussion**

At the time of this writing no other necropsy reports of EMS-associated deaths were found in the medical literature. Reported biopsies have shown hyperplasia in bone marrow of eosinophil precursors. Muscle biopsies have shown perivascular and interstitial inflammatory infiltrates of eosinophils and round (mononuclear) cells[1,2]. There was one recent report of biopsy-proven myocarditis[3]. Clear-cut vasculitis has been reported. One report of an open lung biopsy on a female patient taking LTCPS (1500 mg daily for 3 months) and who had pulmonary infiltrates and peripheral eosinophilia (no myalgias were mentioned), revealed pulmonary vasculitis and a hypersensitivity pneumonitis picture with interstitial infiltrations of lymphocytes (predominantly), eosinophils and plasma cells. Because the only other medications this 70-year-old woman had taken were propanolol, conjugated estrogens and vitamin B complex, L-tryptophan was implicated in a drug-induced pneumonitis in her case[4].

Our patient had prominent mononuclear infiltrates perivascularly, perineurally, in muscle tissue, and indeed quite surprisingly in the majority of organs examined, including the pancreas, kidneys and heart. These findings are consistent with the biopsy reports mentioned above. The eosinophilic infiltrates described in those reports were not present in our patient's case; his eosinophilia had resolved with discontinuation of L-tryptophan. This may reflect a complex clinical picture in which a combination, or evolution, of immediate and delayed hypersensitivity reactions to his medication took place; thus,

the autopsy findings may reflect a late or resolution phase of the EMS. The exclusion of infectious, parasitic, autoimmune and neoplastic etiologies in this case supports this hypothesis.

The relatively large factor that EMS contributed to this patient's demise appears substantial, although the actual terminal event was most likely a bacterial pneumonia. In the initial 9 deaths of EMS patients reported to the CDC, the conclusion was that there appeared to be a mixture of some with definite progression of EMS, some with progression of underlying disease exacerbated by EMS, and some related to complications of therapy[5]. Our patient seems to fall in the middle category. His initial presentation of congestive heart failure was probably related in large part to the myocarditis discovered at autopsy, and his new oxygen-dependence was apparently also due to LTCPS. Pulmonary vasculitis is currently thought to be the main mechanism for hypoxemia in this syndrome by some[6]. Our patient's persistent dependence on oxygen and his fairly sudden death at home, despite close attention to his needs and condition by his wife, suggest that critical diminution of his cardiopulmonary reserve persisted for at least 4 weeks after termination of his LTCPS. Early data on the natural history of EMS, together with the findings at autopsy in our patient support this. In addition, it is quite possible that the patient's chronic abdominal pain (noted in the review of systems) was, in retrospect, referrable to the pancreatic inflammation discovered at autopsy. Pancreatitis previously had not been reported as a finding in EMS.

**Tryptophan**

L-Tryptophan is one of the essential amino acids, and a precursor of serotonin and nicotinic acid ribonucleotide. The minimum daily requirement is 250 mg for men and 150 mg for women. The average Western diet provides 1 to 3 grams per day. It has been available in over-the-counter preparations since the early 1970s and frequently is recommended for insomnia as a "natural" hypnotic.

There is solid biochemical rationale for its use in various affective states involving depressed mood. Many reports of research supporting its efficacy in this area exist[7].

Research beginning in the 1960s has established the probable key role of serotonin in the biochemistry of sleep, particularly the neurotransmitter's importance in the expression of slow-wave and possibly rapid eye movement sleep. Subsequently, the use of tryptophan was advocated as a hypnotic agent presumably because it is a serotonin precursor. George et al correlated pharmacologic increases in serum L-tryptophan levels within a certain range with subjective measures of sleepiness and objective reductions in sleep latency time. These researchers also speculated that a different metabolite of tryptophan than serotonin — kynurenine — could possibly have a major role in inducing sleep onset[8]. Interestingly, recent reports of patients studied for their sclerodermaform cutaneous manifestations in EMS have raised the possibility that excess kynurenine may be important in the pathogenesis of scleroderma and EMS[9,10].

Up to now, side effects of L-tryptophan have been reported infrequently and as generally minor in nature. Nausea and drowsiness are the most frequently noted complaints[7]. Trytophan administration without a pyridoxine (vitamin B6) supplement reportedly can lead to pyridoxine deficiency, with subsequent psychiatric symptomatology, especially depression. A tryptophan metabolite (3-methyl indole) has been found in animal studies to be able to induce pulmonary edema and bronchospasm. It is implicated in bovine respiratory distress syndrome[7]. Tryptophan may possess inherent neurotoxicity[11]. Four of 9 patients in one recently reported series developed peripheral neuropathy[10].

**EMS**

The Eosinophilia-myalgia syndrome has an insidious onset; it is most frequently characterized by myalgia and fatigue, respiratory complaints such as dyspnea and cough, peripheral edema, fever and a maculopapular, vesicular, or urticarial rash. Neuropathies (mononeuritis multiplex) occur, as do arthralgias and muscle weakness. Skin changes typical of scleroderma are seen in patients who have been ill for several months[2]. Varga et al recently reported clinico-pathologic findings in 4 patients taking LTCPS who were afflicted with EMS and developed scleroderma-like illness with dermal fascial thickening and fibrosis with mononuclear and eosinophilic infiltrates[12]. Early statistics from the CDC reveal pulmonary infiltrates in 12% of patients in whom a chest x-ray was done, and pleural effusions in 13%. Leukocytosis was present in 87% of patients[13]. Significant eosinophilia even above 30,000/mm$^3$ occurred. Liver function tests, creatine phosphokinase and aldolase are normal in most patients. Arterial blood gases may show moderate hypoxia. Some patients have exhibited signs of heart failure; arrythmias also have been reported[2]. Symptoms gradually develop over the course of several weeks.

Although 21 deaths have been attributed to EMS, no uniform mechanism for the demise has been determined from the data available at this time. One case report of a fatality in New York involved a woman who developed an ascending polyneuropathy with near-total quadriplegia. She failed to improve on corticosteroids and cyclophosphamide treatment, and died from cardiorespiratory arrest. The patient had been taking 5 to 6 grams of L-tryptophan daily. She had abnormal nerve conduction studies most consistent with axonal neuropathy. Her cerebrospinal fluid protein, glucose and cell counts were considered to be within normal limits; serologic tests for a variety of autoimmune diseases were negative in this woman with EMS[14].

Most patients improved clinically after the LTCPS were discontinued, whereas in others the disease remained static or progressed downhill. In only a few cases did symptoms and signs disappear within days of stopping LTCPS. No clear dose dependence has yet been established between LTCPS and EMS. The mean intake of tryptophan in cases reported to the CDC is 2.6 grams per day. There was one case in which the CDC confirmed that the EMS patient had been taking only 0.02g per day [15].

Other than discontinuing the ingestion of LTCPS, the CDC has no recommendation for any specific treatment regimens. Anecdotally glucocorticoids such as prednisone have benefited some patients. The CDC recommends that clinicians consider risks versus benefits when prescribing these. The use of NSAIDS and narcotic analgesics is not contraindicated in

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EMS patients with severe muscle pain.

### Epidemiology

The results of the recent epidemiologic work which linked LTCPS to EMS are quite striking. A cluster of 3 cases of patients with eosinophilia and severe myalgias who had been taking oral preparations of L-tryptophan was reported to the New Mexico Department of Health and Environment (NMDHE) on October 30, 1989. Public announcement led rapidly to reports of other cases, and the NMDHE initiated a case-control study, cross-referencing records from 9 laboratories within the state, of persons with eosinophil counts greater than 2,000 cells/mm$^3$ (between May and November 1989) who had documented incapacitating myalgias[16]. After excluding cases in which eosinophilia could have been caused by any of a predetermined list of infectious, neoplastic, allergic or other chronic conditions; it was discovered that all (100%) of the case patients had used LTCPS, as compared to 8% of the controls (matched for age, sex, and neighborhood of residence). Comparisons made with 32 other potential risk factors, including water source, medications and dietary factors such as raw food products and vitamins ingested, revealed no statistically significant differences between the EMS cases and controls[14].

Case control studies in Minnesota and Oregon supported this conclusion that LTCPS were implicated in the EMS epidemic. It was further reported that there was a higher incidence of EMS associated with certain brands, and even with particular lots of the product in those states.

All L-tryptophan used in LTCPS obtained in the U.S. comes from a few manufacturers in Japan. The FDA is currently tracing suspect lots of LTCPS, and is evaluating production procedures at the Japanese companies where L-tryptophan is being produced[14]. Very recent and still unpublished results from Oregon and Minnesota do suggest that one Japanese manufacturer of raw L-tryptophan is most causally connected with the current epidemic of EMS. Although none of the cases of EMS yet reported to the CDC or FDA have involved infant, parenteral or enteral formulas; the sources of L-tryptophan for these products are likely the same as those in the over-the-counter dietary supplements that are associated with EMS.

Whether EMS results directly from pharmacologic doses of tryptophan, or whether the pathology of EMS results from a toxic contaminant in the raw L-tryptophan imported from Japan, or an adulteration in the manufacturing of the final product in the United States is not yet certain.

The role of host factors in the syndrome is a fascinating area of potential research. The timing of the current epidemic is quite vexing — whether recognition of the syndrome merely paralleled booming LTCPS use or whether perhaps an only recently introduced toxic contaminant is responsible for the current prevalence of EMS is unclear. Indole has been tentatively identified as a contaminant in some LTCPS.

EMS actually resembles the "toxic-oil" syndrome which afflicted Spain in 1981 and 1982. This generally febrile, pneumonia-like illness, with prominent gastrointestinal symptoms occurring secondarily in its course, and a high incidence of later neuromuscular sequelae just as in EMS featured striking eosinophilia, myalgias and muscle weakness, pneumonia and scleroderma-type cutaneous lesions. Toxic-oil syndrome was discovered to be due to adulterated "boot leg" olive oil which contained a high proportion of rapeseed oil. By June 1, 1982, 19,828 cases and 315 deaths had been reported[17]. Interestingly analine dye was used in the production of the rapeseed oil. Analine is chemically similar to anthranilic acid, one of the nutrients which is feed to mutant bacteria in the manufacturing process used by Japanese pharmaceutical companies to produce tryptophan[6].

### Conclusion

The weight of evidence thus far and the timing and epidemic pattern of occurence of EMS with LTCPS is more suggestive of a toxicologic etiology rather than the syndrome being due to pharmacologic effects of tryptophan itself. The occurrence of EMS in our case report of a dose of 0.5 to 1.5 gms per day, when average diets contain 1 to 3 grams tends to confirm this. On the other hand, in our patient's case his nutritional history and laboratory indices (albumin 2.6 gm%) indicate his dietary intake was probably marginally poor overall, and the ratio of tryptophan to other dietary constituents could possibly have been the key biochemical variable. The transport systems for tryptophan to enter the central nervous system and other tissues depends on competing with the transport of all large neutral amino acids, so that cellular concentrations of tryptophan depend directly on the relative plasma concentration of tryptophan in relation to other amino acids[11]. That an amino acid which is a natural constituent of every protein in our body, such as tryptophan, alone could induce the immunocytological abnormalities observed in this pathological study does not seem very plausible. At this time early in the understanding of the eosinophilia-myalgia syndrome, we await further clinicopathologic data and toxicology research on the products which contain this medically useful, and now popularly stigmatized, amino acid.

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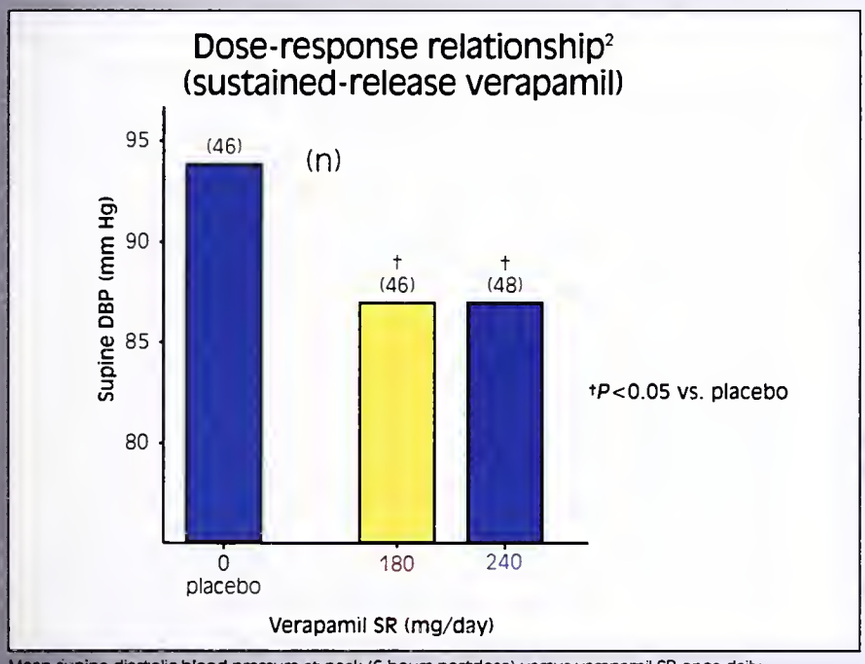

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**Precautions:** Verapamil should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Verapamil may decrease neuromuscular transmission in patients with Duchenne's muscular dystrophy and may prolong recovery from the neuromuscular blocking agent vecuronium. It may be necessary to decrease verapamil dosage in patients with attenuated neuromuscular transmission. Combined therapy with beta-adrenergic blockers and verapamil may result in additive negative effects on heart rate, atrioventricular conduction and/or cardiac contractility; there have been reports of excessive bradycardia and AV block, including complete heart block. The risks of such combined therapy may outweigh the benefits. The combination should be used only with caution and close monitoring. Decreased metoprolol clearance may occur with combined use. Chronic verapamil treatment can increase serum digoxin levels by 50% to 75% during the first week of therapy, which can result in digitalis toxicity. In patients with hepatic cirrhosis, verapamil may reduce total body clearance and extrarenal clearance of digitoxin. The digoxin dose should be reduced when verapamil is given, and the patient carefully monitored. Verapamil will usually have an additive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after verapamil administration. Concomitant use of flecainide and verapamil may have additive effects on myocardial contractility, AV conduction, and repolarization. Combined verapamil and quinidine therapy in patients with hypertrophic cardiomyopathy should be avoided, since significant hypotension may result. Concomitant use of lithium and verapamil may result in a lowering of serum lithium levels or increased sensitivity to lithium. Patients receiving both drugs must be monitored carefully. Verapamil may increase carbamazepine concentrations during combined use. Rifampin may reduce verapamil bioavailability. Phenobarbital may increase verapamil clearance. Verapamil may increase serum levels of cyclosporin. Concomitant use of inhalation anesthetics and calcium antagonists needs careful titration to avoid excessive cardiovascular depression. Verapamil may potentiate the activity of neuromuscular blocking agents (curare-like and depolarizing); dosage reduction may be required. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. Pregnancy Category C. There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. Verapamil is excreted in breast milk; therefore, nursing should be discontinued during verapamil use.

**Adverse Reactions:** Constipation (7.3%), dizziness (3.3%), nausea (2.7%), hypotension (2.5%), headache (2.2%), edema (1.9%), CHF, pulmonary edema (1.8%), fatigue (1.7%), dyspnea (1.4%), bradycardia: HR < 50/min (1.4%), AV block: total 1°,2°,3° (1.2%), 2° and 3° (0.8%), rash (1.2%), flushing (0.6%), elevated liver enzymes. The following reactions, reported in 1.0% or less of patients, occurred under conditions where a causal relationship is uncertain: angina pectoris, atrioventricular dissociation, chest pain, claudication, myocardial infarction, palpitations, purpura (vasculitis), syncope, diarrhea, dry mouth, gastrointestinal distress, gingival hyperplasia, ecchymosis or bruising, cerebrovascular accident, confusion, equilibrium disorders, insomnia, muscle cramps, paresthesia, psychotic symptoms, shakiness, somnolence, arthralgia and rash, exanthema, hair loss, hyperkeratosis, macules, sweating, urticaria, Stevens-Johnson syndrome, erythema multiforme, blurred vision, gynecomastia, increased urination, spotty menstruation, impotence.

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*... the constitutionally rugged*

# Outcome following open-heart surgery in an Oriental octagenarian population in Hawaii

Andrew C. Dixon MD*
Leslie Ito MD**
Osamu Fukuyama MD***

*Increasingly, a surgical approach is being utilized for the management of elderly patients with ischemic or valvular heart disease. In order to further understand the outcome in this population, we performed a retrospective review of octagenarians undergoing open-heart surgery over a 2-year period. Thirteen patients were identified, with a mean age of 82.6 years. All were Oriental. Most of our patients were considered high risk, 10 of them requiring emergency surgery and 6 requiring preoperative intra-aortic balloon counterpulsation (IABP).*

*Postoperatively, 11 of the 13 patients suffered at least 1 complication. The most frequent complications were atrial arrythmias (7 patients), a low cardiac output (5 patients), the need for prolonged ventilation (3 patients) and ventricular arrythmias (3 patients). Functionally, the patients statistically improved, from a mean preoperative classification of 3.8 (New York Heart Association Classification) (NYHA) to 1.5 at the time of discharge ($p<0.001$). All patients are still alive at the time of writing (October 1989) with a mean followup of 13.3 months.*

*Our data show that an operative approach to heart disease can be done safely in a high risk octagenarian population. In addition, we found that a statistically significant functional improvement occurred in these patients.*

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* Department of Medicine,
John A. Burns School of Medicine,
University of Hawaii, Honolulu, Hawaii 96813
** Assistant Professor of Surgery
Division of Cardiothoracic Surgery
John A. Burns School of Medicine
University of Hawaii and Kuakini Medical Center
Honolulu, Hawaii 96817
*** Associate Professor of Medicine
Division of Cardiology
John A. Burns School of Medicine
University of Hawaii and Kuakini Medical Center
Honolulu, Hawaii 96817

Address reprint requests to:
Dr. Fukuyama
321 North Kuakini Strect #504
Honolulu, Hawaii 96817
Office: (808) 538-1125

## Introduction

As the general population ages, physicians frequently will be faced with difficult decisions regarding the management of elderly patients with heart disease. Open-heart surgery with valve replacement and/or coronary artery bypass grafting is being offered increasingly in this age group. Recent reports have suggested that open-heart surgery in patients over the age of 80 can be performed safely with an operative mortality ranging from 4% to 29%[1-5]. The patients reported in these studies, however, have suffered from a high rate and wide variety of postoperative complications.

In the course of advising patients with severe ischemic or valvular heart disease properly, physicians need to be aware of the morbidity and mortality statistics applicable to their particular population and location. At our hospital, we treat patients of Oriental ancestry for the most part, a population known for its longevity. We report our experience over a 2-year period

*(Continued)* ▶

with 13 octagenarians who had open-heart surgery at our institution.

## Patients and Methods

The medical records of those patients who had been referred for open-heart surgery by a single practicing cardiologist (O.F.) over the 2-year period from November 1986 to November 1988 were reviewed. A retrospective analysis was done on all of the patients in this group who were over the age of 80 at the time of their surgery. Twelve of the 13 patients who fulfilled this criterion had their surgery at a single institution (Kuakini Medical Center). Eleven of the 13 were operated on by the same surgeon (L.I.).

Operative consent was obtained from all patients after the potential benefits and risks of the surgery were explained. No patient who desired operative intervention was refused. Preoperative care and cardiac catheterization was performed by a single cardiologist (O.F.). Postoperative and followup care was shared by the surgeon and the cardiologist.

Preoperative risk factors and postoperative complications were recorded in a retrospective chart review by an individual who had not participated in the care of the patient. Laboratory data, nursing, respiratory therapist and physician notes were scrutinized to determine the complications that occurred.

The recorded preoperative risk factors included emergency surgery (defined as life-sustaining surgery performed within 24 hours of cardiac catheterization), previous myocardial infarction (old or recent), NYHA Class IV, unstable angina, a history of congestive heart failure and dyspnea on exertion, a history of syncope, chronic stable angina, postinfarction angina (<30 days), acute pulmonary edema, preoperative intra-aortic balloon pump, cardiogenic shock, acute endocarditis, a history of diabetes mellitus, a history of either atrial or ventricular arrythmias, hypertension, a need for a pacemaker preoperatively, serious pulmonary disease, and a preoperative serum creatinine of >2 mg/dl.

Postoperative complications recorded included the following: Atrial arrythmias, intra-aortic balloon pump, low cardiac output (C.I. <2.0) at any time, intubation lasting longer than 72 hours or the need for reintubation, ventricular arrythmias, stroke (CVA) or transient ischemic attack (TIA), the need for a skilled nursing facility following discharge, reoperation for bleeding, pneumonia, renal insufficiency (defined as a rise in the serum creatinine of greater than 1.0 mg/dl over the admission value), bowel obstruction or ileus, the need for nasogastric feedings for at least 1 month, septicemia, postoperative delirium, postoperative depression requiring psychiatric evaluation, upper gastrointestinal bleeding requiring transfusion, pancreatitis, urinary retention, readmission for an unrelated problem within 1 month, postoperative myocardial infarction, requirement of a new pacemaker and wound infection or dehiscence.

Whenever necessary, the student's T test was used to determine statistical significance. The p value of less than 0.05 demonstrated statistical significance.

## Results

Thirteen octagenarians (6 women, 7 men) underwent open heart surgery during the 2-year study period. As stated previously, all patients were of Oriental ancestry. Their average age was 82.6 years (range 80 to 89). All were selected for open heart surgery based on clinical and catheterization data.

**Table 1.**
**Profile of octagenarians undergoing open-heart surgery.**

| Case No. | Age (yr) | Sex | Operation | Urgency* |
|---|---|---|---|---|
| 1 | 82 | F | CABGx2 | emergent |
| 2 | 82 | F | CABGx4 | |
| 3 | 85 | F | CABGx4 | emergent |
| 4 | 86 | M | AVR | |
| 5 | 83 | F | AVR | |
| 6 | 82 | M | CABGx4 | emergent |
| 7 | 80 | M | CABGx4 | emergent |
| 8 | 82 | M | CABGx2/AVR | emergent |
| 9 | 89 | F | CABGx5 | emergent |
| 10 | 82 | M | CABGx2/MVR | emergent |
| 11 | 81 | F | CABGx3 | emergent |
| 12 | 80 | M | CABGx3 | emergent |
| 13 | 80 | M | CABGx3/AVR | emergent |

CABG=coronary artery bypass grafting x number of vessels grafted; AVR=aortic valve replacement; MVR=mitral valve replacement.

*The surgery was considered emergent if performed for life-sustaining reasons within 24 hours of the cardiac catheterization. Where it is not indicated, the urgency of the surgery was considered routine.

The operative procedure performed on each patient is shown in Table 1. Eight patients had CABG alone. Two patients had an aortic valve replacement only; 3 had valve replacement plus CABG (1 on the mitral and 2 on the aortic valve). Of those who underwent CABG, an average of 3.3 grafts were placed. None had undergone previous open heart surgery.

The preoperative risk factors and the frequency with which they were encountered are shown in Table 2. From a cardiovascular point of view, all were seriously ill (Table 3). A total of 6 patients (46%) had previously suffered an MI, and several of these had experienced chronic congestive heart failure. Four patients (31%) had suffered an acute MI within 72 hours preoperative; another 3 patients were thought to be having preinfarction angina. Unstable angina was present in 8 of the patients (62%). Chronic angina had been present in 5 patients (38%). Two patients had a history of atrial arrythmias; 1 of these had had a ventricular arrythmia as well. As stated above the mean NYHA functional classification of all these patients preoperatively was 3.8. Ten (77%) patients required emergency surgery; the remaining 3 received elective surgery.

Because of either cardiogenic shock (2 patients), or angina unresponsive to maximal medical therapy (4 patients), an IABP was placed in 6 patients (46%) preoperatively. In all of these it was left in during the initial postoperative period. Five patients (38%) had acute pulmonary edema as the primary reason for admission to the hospital and subsequently underwent surgery during the same hospitalization; 2 of these patients required an IABP preoperatively.

Of note in our series is the relative absence of major noncardiac diseases preoperatively. No patient had a history of seri-

**Table 2.**
**Preoperative risk factors in octagenarians undergoing open-heart surgery.**

| Risk Factor | Patient Case No. | Total No. (%) |
|---|---|---|
| Emergency Surgery | 1,3,6,7,8,9,10,11,12,13 | 10 (77%) |
| NYHA Class IV | 1,2,3,4,6,7,9,10,11,12,13 | 11 (85%) |
| Unstable Angina | 1,2,3,6,7,9,11,12 | 8 (62%) |
| Previous MI | 2,3,6,9,12,13 | 6 (46%) |
| History of CHF | 2,5,6,8,10 | 5 (38%) |
| Dyspnea on Exertion | 2,4,5,8,12,13 | 6 (46%) |
| History of Syncope | 6,8 | 2 (15%) |
| Chronic Stable Angina | 1,2,3,6,7 | 5 (38%) |
| Postinfarction Angina (<30 days) | 3,6,9,12,13 | 5 (38%) |
| Acute Pulmonary Edema Preoperatively | 2,5,6,10,13 | 5 (38%) |
| Preoperative Need for IABP | 3,6,7,8,10,12 | 6 (46%) |
| Cardiogenic Shock Preoperatively | 6,10 | 2 (15%) |
| History of Diabetes Mellitus | 1,2,3,5,7 | 5 (38%) |
| History of Atrial Arrythmias | 2,7 | 2 (15%) |
| History of Ventricular Arrythmias | 7 | 1 (8%) |
| History of Hypertension | 2,3,5,6,8,9,10,11,13 | 9 (70%) |
| Preoperative Pacemaker | 7 | 1 (8%) |
| Acute Endocarditis | | 0 |
| Preoperative Creatinine >2.0 mg/dl | | 0 |
| Serious Pulmonary Disease | | 0 |

MI = myocardial infarction; NYHA = New York Heart Association; CHF = congestive heart failure; IABP = intraaortic balloon pump.
*Defined as life-sustaining surgery performed within 24 hours of cardiac catheterization.

**Table 3.**
**Prevalence of myocardial infarction preoperatively in octagenarians undergoing open-heart surgery.**

| Character | Patient Case No. | Total No. (%) |
|---|---|---|
| Acute (<72 hours) MI* | 3,6,12,13 | 4 (31%) |
| Unstable (preinfarction) Angina | 2,7,11 | 3 (23%) |
| Postinfarction (<1 month) Angina | 9 | 1 (8%) |
| Remote MI | 2 | 1 (8%) |
| No Previous MI | 1,4,5,7,8,10,11 | 7 (54%) |

*MI = myocardial infarction

ous pulmonary disease although 6 patients admitted dyspnea on exertion. No patient had a serum creatinine of > 2 mg/dl preoperatively. None of the patients was cachectic at the time of surgery. Even the 5 who had diabetes mellitus and the 9 who were hypertensive did not have serious disease.

The postoperative complications encountered are listed in Table 4. All but 2 patients had at least one complication (Class 1 and 11), an incidence of 85%. Four of the 13 patients (31%)

**Table 4.**
**Postoperative complications in octagenarians undergoing open-heart surgery.**

| Complication | Patient Case No. | Total No. (%) |
|---|---|---|
| Atrial Arrythmias | 2,4,6,7,8,9,13 | 7 (54%) |
| Postoperative IABP | 3,6,7,8,10,12 | 6 (46%) |
| Low Cardiac Output (CI <2.0 l/m²/min | 3,6,7,9,10 | 5 (38%) |
| Intubation > 72 hours | 5,6,10 | 3 (23%) |
| Ventricular Arrythmias | 5,6,10 | 3 (23%) |
| Cerebrovascular Accident | 5,6 | 2 (15%) |
| Discharge to SNF (> 1 month) | 5,6 | 2 (15%) |
| Reoperation for Bleeding | 4,9 | 2 (15%) |
| Pneumonia | 6,7 | 2 (15%) |
| Renal Insufficiency* | 2,10 | 2 (15%) |
| Bowel Obstruction or Ileus | 5,8 | 2 (15%) |
| Long-term Nasogastric Feedings | 5,6 | 2 (15%) |
| Septicemia | 7 | 1 (8%) |
| Transient Ischemic Attack | 10 | 1 (8%) |
| Postoperative Delirium | 6 | 1 (8%) |
| Postoperative Depression | 6 | 1 (8%) |
| UGI Bleeding Requiring Transfusion | 6 | 1 (8%) |
| Pancreatitis | 7 | 1 (8%) |
| Urinary Retention | 12 | 1 (8%) |
| Readmission within One Year | 2,3,8 | 3 (23%) |
| Transfusion Reaction | 13 | 1 (8%) |
| Reintubation | | 0 |
| Acute Postoperative MI | | 0 |
| New Pacemaker Required | | 0 |
| Wound Infection or Dehiscence | | 0 |

IABP = intraaortic balloon pump; SNF = skilled nursing facility; UGI = upper gastrointestinal; MI = myocardial infarction.
*Defined as a rise in the serum creatinine of over 1.0 mg/dl over the admission level.

had 6 or more complications. All patients in the study survived the surgery and are alive at this time.

In the immediate postoperative period (within 72 hours) a cardiac index of <2.0 L/min/m² was recorded in 5 patients (38%), 4 of whom had had an IABP placed preoperatively. No complications attributable to the IABP were encountered. Atrial arrythmias were noted in 7 of the patients (54%). Both patients with preoperative arrythmias also developed atrial arrythmias in the postoperative period.

Three patients remained intubated for a period longer than 72 hours. These 3 individuals all suffered ventricular arrythmias postoperatively. Two of these patients suffered a stroke in either the perioperative or postoperative period and the third developed a TIA with ultimate full recovery of function. These neurologic events were in part responsible for the prolonged mechanical ventilation in these patients. The 2 patients who suffered strokes remained in the hospital for a prolonged period of time and required long-term nasogastric feeding because of associated swallowing disorders. Both were discharged to a skilled nursing facility but were able later to resume normal eating and eventually returned to their respective homes.

Three of the patients (23%) were readmitted to the hospital after their surgery. Two were readmitted soon after their initial

*(Continued)* ▶

discharge (one for an ileus that resolved spontaneously, the other for atelectasis and hypoxemia which resolved with chest physiotherapy and did not require antiobiotic therapy). The third case (Case 2) required several admissions beginning 6 months after surgery because of atypical chest pain and, later, the new onset of nephrotic syndrome with renal insufficiency and congestive heart failure.

In our series, infection was a rare complication. Two patients developed pneumonia in the postoperative period. One of these (Case 7) developed septicemia as well. No sternal or other wound infections were encountered in any of our patients.

The remainder of the complications are listed in Table 4. Despite the high frequency of complications in this series, all are alive at this time. Eleven of the patients (85%) continue to be ambulatory and active; the other 2 ambulate but with some difficulty because of postoperative strokes.

Only 1 patient has developed a recurrence of cardiovascular symptoms after surgery. This patient (Case 2) returned 13 months later with congestive heart failure. A thallium scan demonstrated a new anterior-septal reperfusion abnormally; clinically we felt that she had suffered an occlusion of a graft and a subsequent silent myocardial infarction. A repeat cardiac catheterization was not performed. It is unknown if her newly diagnosed nephrotic syndrome mentioned above contributed to the graft closure.

The mean length of postoperative hospital stay in our patients was 16.4 days, with a range of 8 to 41 days. If one excludes the 2 patients who suffered strokes necessitating prolonged hospital stays (cases 5 and 6), the mean postoperative hospital stay can be documented as 12.6 days.

As indicated above, at discharge, the mean NYHA class of our patients was 1.5. This was a significant improvement ($p<0.001$) when compared to the admission functional class of 3.8.

## Discussion

Several previous studies have addressed the morbidity and mortality rates in octagenarians undergoing open heart surgery[1-5]. Data from these studies have identified several preoperative risk factors which may predict an increased risk of death. These have included emergency surgery, NYHA Class IV, combined procedures, the use of an IABP, postoperative bleeding necessitating reoperation, cachexia and previous myocardial infarction.

It has been previously reported that advanced age alone has been a factor leading to increased mortality from coronary surgery[6]. In addition, octagenarians have more advanced coronary artery disease and, when present, more severe left ventricular dysfunction than do younger individuals[6]. Finally, it is well-known that elderly patients have a greater prevalence of chronic medical illnesses that may contribute to their surgical risk[7].

In those studies that have specifically addressed the hospital and perioperative mortality of octagenarians undergoing open heart surgery, rates from 4% to 29% are reported[1-5]. However, in our small series of 13 octagenarians we encountered no deaths. We believe this reflects both the relatively young physiologic age of our patients and the lack of other serious chronic medical diseases which could potentiate their risk of death from open-heart surgery. The Oriental population in Hawaii, from which all of our patients came, has a life expectancy of almost 5 years longer than their counterparts in other states[8]. Despite the prevalence of diabetes mellitus and hypertension in our series (39% and 70% respectively), these seemed to have no bearing on the outcome.

Conversely, our patients all had serious cardiac disease preoperatively as shown in Figures 2 and 3. Six of our 13 patients (46%) had a history of a previous myocardial infarction, and 10 of the 13 patients (77%) had to undergo emergency surgery. Eight patients (62%) had unstable angina and 5 patients (38%) had acute pulmonary edema preoperatively. All but 2 patients were in NYHA Class IV preoperatively.

The complication rate in our patients was 85%. This is similar to rates of 57% to 92% recorded in other series[1-3,5]. Our most commonly encountered complications were related to myocardial function (see Table 4). The majority of complications occurred in those patients with either a low cardiac output postoperatively (most of whom required the use of an IABP), or in the 2 patients who suffered a CVA. Several of these complications warrant a more specific analysis.

Although not always specifically mentioned in other studies, the mortality rates in octagenarians requiring the use of an IABP perioperatively have ranged from 52% to 67%[2,3,5]. In our series, 6 patients required an IABP preoperatively, either to control ischemia (4 of the 6) or for cardiogenic shock (2 of the 6). As noted, no patient died and no complications were encountered attributable to the IABP.

Two of our patients (15%) suffered strokes in the immediate postoperative period. This resulted in prolonged intubation, the need for long-term nasogastic feedings, and subsequent discharge to a skilled nursing facility for both patients. Other series have reported rates for postoperative CVA of from 0.8% to 4%[1-3,5]. Not enough information to date is available to determine the etiology of these postoperative strokes; however, others have reported an increased risk of neurologic events in elderly surgical patients[9-12]. It is notable that all 3 of our patients who suffered a neurologic event (CVA or TIA) in the postoperative period had presented preoperatively with acute pulmonary edema. The small size of our study, however, prevents statistical analysis of the risk factors for this complication.

Another complication commonly encountered in some series has been postoperative bleeding necessitating reoperation. Two patients in our study (15%) encountered this complica-

**Table 5.**
**Functional classification of octagenarians before and after open-heart surgery.**

| NYHA Classifiation | Number of patients in each class | |
|---|---|---|
| | Preoperatively | Postoperatively |
| I | 0 | 7 (54%) |
| II | 0 | 6 (46%) |
| III | 2 (15%) | 0 |
| IV | 11 (85%) | 0 |

*Denotes New York Heart Association

tion, a rate comparable to the 0% to 36% recorded in other series[1-3,5]. Some authors have suggested that a coagulopathy resulting from extracorporeal circulation and the use of nonsteroidal anti-inflammatory medications as being the likely etiologic explanation for this[1].

The change in the mean NYHA functional classification of our patients from 3.8 preoperatively to 1.5 at the time of discharge (Table 5), found to be statistically significant ($p<0.001$), indicates a dramatic functional improvement similar to that reported in other series of similar patients[1,5].

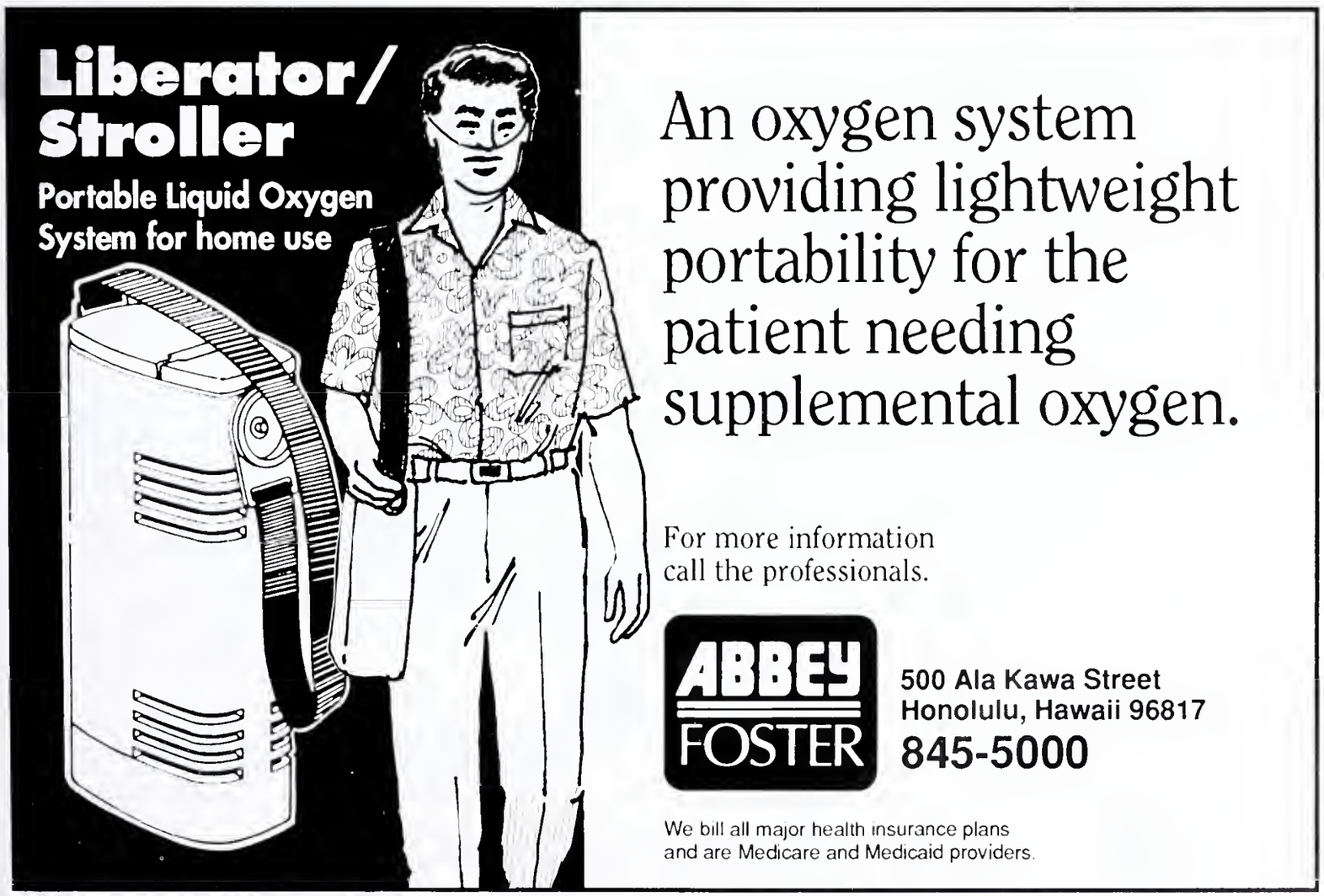
In conclusion, our data reaffirms that of others, demonstrating that open-heart surgery can be performed safely in patients > 80 years of age. Although a high frequency and great variety of postoperative complications may be anticipated, acceptably low mortality rates and significant functional improvements are likely to occur. We believe that selection of patients for open-heart surgery should be based primarily on the physiologic rather than chronological age and on the extent of cardiac and concommitant medical illnesses. As shown in our series, even those patients with emergent and life-threatening presentations of their cardiovascular disease can be successfully managed surgically in the absence of other serious chronic medical problems. It is hoped that further studies will help to determine if this is true.

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# A testimonial well-deserved: Pauline G. Stitt MD

Walter B. Quisenberry MD

I have known Dr. Pauline Stitt for more than 40 years. I consider that I have had a rare privilege and a great honor to have worked with her as a health partner. We were branch chiefs in the Territorial Health Department when I first came to Hawaii.

I could see that she stood out as significantly different from her fellow workers. As we discussed health problems which we had to solve together, it usually took only a short time to learn how Pauline felt about the subject under discussion. One experience I will never forget came about while we were discussing the budget for the immunization programs. The funds were limited so we had to establish priorities for spending. Pauline was as much concerned as anyone else about the immunization programs for children, but her concerns were much broader than those of most of us about the health needs of children.

Pauline then proceeded to give us a brief summary of present information regarding the emotional needs of newborns and young children and how children would stop eating and die if deprived of attention by caregivers such as parents and nurses. She concluded by saying we should of course give proper immunizations, but not to forget to meet their emotional needs as well. She ended her discussion with the following question which I have quoted many times: "Is it worse for a child to die of diphtheria or to die of a broken heart?"

I believe this question reflects the attitude which I have heard expressed by Pauline and have seen practiced by her. It is also reflected very strongly in the report below entitled, "Chance, The Prepared Mind and Children with Hansen's Disease."

Dr. Stitt has lived and practiced the highest quality a physician can possess. She cares!

*. . . the wisdom of experience*

# Chance, the Prepared Mind and Children with Hansen's Disease

Pauline G. Stitt MD

*Louis Pasteur said, "Chance favors the prepared mind."*

*It certainly favored a medical mind one Hawaiian evening when a Hansen's disease specialist attended a Boy Scout Jamboree known in Hawaii as a Makahiki. The Scout Master had invited the physician because there were to be athletic events and he wanted a "doctor in the house." That "house" consisted of bleachers and a playing field; high-powered lights blazed down on players and audience. Soon the doctor whispered to the Scout Master: "Notice the boy in front of me. Be sure I learn how to reach him and his family."*

Professor of Public Health (Emeritus)
University of Hawaii
1434 Punahou Street, #927
Honolulu, HI 96822

*What had happened? In the glare of lights, the doctor noticed swellings behind the boy's ears, swellings along the postauricular nerves. He knew he was seeing a probable sign of "Hansen's Disease": The official term in Hawaii for the disease better known elsewhere as "Leprosy."*

Next day the physician met with the local health officer and a public health nurse from the youngster's district and through them reached the child and family. When the boy and some of his household turned out to have the disease, the doctor started them all on treatment.

That Scout rally and follow-up exemplify "chance and the prepared mind." A chance observation opened the door of opportunity, and the physician's knowledge of Hansen's Disease provided the prepared mind.

As for juvenile Hansen's Disease today, prepared minds are

*(Continued)* ▶

rarer than the disease. There is little awareness of the ways the disease affects children, or how childhood, in turn, affects the disease. There is even less realization of the part an untreated childhood infection plays in later pathology.

### Little People with a Big Disease

Children with Hansen's Disease are little people with a big disease. They comprise a population not only vulnerable but remarkably responsive to care.

A medical truism maintains that most missed diagnoses occur because physicians fail to think of them as possibilities. Usually a physician can make an accurate diagnosis — if the possibility of that disease or disorder came to mind.

Hansen's Disease in the young is often overlooked because of "intolerable incongruity" — one of the most blinding phenomena in medicine. There are patients so lovable, and diseases so devastating, that we cannot let ourselves recognize their coexistence. We may stay blind until it is too late to help.

We recall families riddled with tuberculosis, where the disease raged on undiagnosed because of physician reluctance to recognize its existence in the young and lovely. Similar reluctance impedes the diagnosis of childhood malignancy. It is also a problem in juvenile Hansen's Disease.

Resistence to recognition is not new, but it is of graver consequence now that effective therapeutic approaches exist. In each infected child, time is of the essence.

### New Days Need New Ways

Until recently, Hansen's Disease was uncontrollable. That fact, and the destruction and deformities of the disease, alienated all but the most dedicated caretakers. As for the general public, their main ideas of leprosy came from Bible passages about ostracism and cries of "Unclean, unclean!" They closed their minds and fled into a fantasy where the disease existed only in bygone days, far lands, and among people they thought would ever remain strangers.

Those Bible passages probably described a hodgepodge of diseases. Hansen's Disease today is a different entity from what it was in olden times and can be found on every continent and among all ethnic groups. In times of massive population movements, it is a condition to bear in mind, especially when evaluating the health of migrant populations.

Meeting, mating and moving are major forces in epidemiology today. Since World War II, hordes of humanity have been in motion. Every mass movement affects the populations involved. The effects are described as occurring *on (epi)*, the *people (demos)*. The study of those effects is, of course, *epidemiology*. The study of the interactions between Hansen's Disease and childhood is lively epidemiology.

Whether the young are more susceptible immunologically than other age groups remains debatable; but clearly they are vulnerable.

In Hansen's Disease, as in tuberculosis, children may possess considerable immune resistance. However, in both diseases natural characteristics of infancy and childhood predispose to infection. The children are jeopardized by their dependent state and by their very lovability.

In both of these major diseases, intensity of dosage along with closeness and continuity of contact, serve to seed and perpetuate disease. The warmth, moisture and intimacy of human contact that are part of a child's care and family life, provide a milieu in which the diseases thrive.

In children, the nose and skin are frequent sites of pathology and disease transmission. The clogged and runny noses of childhood are notorious as receivers and transmitters of infection — including Hansen's Disease. Skin is also suspect, for children suffer more than their share of skin problems — including impetigo, scabies, infected insect bites, scuffs, scratches and abrasions. Children's tender skin and the disorders that afflict it open the way to further infection.

The general adult population seems to have substantial resistance to Hansen's Disease. The child, however, is the critical element. As in tuberculosis, it is evident that many adult Hansen's patients acquired their initial infection in their early years.

The pediatric population, therefore, is crucial in the epidemiology of this internationally important disease. It is a disease that affects their personal health, the health of their families, and of the communities within which they live. The children themselves can become repositories of the infection and perpetuators of the disease.

### Parallels with tuberculosis

Parallels between Hansen's Disease and tuberculosis deserve attention. Historically, these scourges of humankind have been recognized as contagious diseases only since the last part of the 19th Century. Globally, they are major public health problems; they are major sources of incapacity and social loss.

Like tuberculosis, Hansen's Disease is a *continuum*, a continuous process. The pathology advances by infinitesimal increments from the moment host and parasite meet and the disease then moves through definite ensuing stages to recovery, chronicity, or death. Morbidity is more conspicuous than mortality in Hansen's Disease. Tuberculosis is a major killer, but Hansen's Disease torments rather than kills.

In either disease, a population of infected individuals may be visualized as occupants of a disease continuum stationed in varying numbers at various stages along its course. An understanding of the disease requires a concept of its full continuum with insight into the disease throughout its entire span[1]. Most importantly, the childhood connection requires that the continuum of the disease needs to be addressed in relation to the simultaneously unfolding continuum of growth and development. Healthy growth can contribute to healing, but it also imposes stress and strain[1].

In both tuberculosis and Hansen's Disease, the clinical phase is only part of the disease continuum. There are clinical and subclinical cases. Inapparent infections are important in terms of the propagation and perpetuation of the diseases. Opportunities for communicability increase with the length of time the organism and its progeny can multiply and escape from a host. Long infectious periods, especially when the host moves about freely, spread infection. *Early diagnosis is a keystone of control. It provides opportunity to treat the patient and it may prevent spread of the disease to others.*

### Life of the Host as a Continuum

Not only is the disease a continuum, but so is the life of the host. A life passes through definite stages, each with its own vulnerability and response to a disease. One needs to elucidate further the differences in host response to infection at different age periods. There is evidence already that differences in host response occur in early childhood, adolescence, the middle years and in old age.

Early observers, for example Krause[2], noted that although the child has good tolerance to tuberculosis, he is a "veritable guinea pig" when exposed to an open case of tuberculosis in his environment. This also pertains to Hansen's Disease.

As we have said, the intimacy of a child's life with those with whom he lives affords opportunity for the seeding of infection. Yet, the limited number of people who touch, or have touched, the child's life narrows the field wherein the source of its infection may be located. The child is a valuable "index case." The child is also a means of bringing others under treatment. There are people who would not come forth for treatment for themselves, but will emerge for a child's sake — especially now that good control measures exist.

Along life's continuum, adolescents are "between grass and hay." While still completing growth tasks of childhood, they become involved with the strains of adult life. Under the combined burdens, the immunologic defenses of earlier years may falter and even fail. The relationships of tuberculosis and Hansen's Disease change with the onset of puberty. The youth's own growth imposes heavy physical demands and additional burdens accompany entry into adult life. Along with the strains of preadolescent and adolescent growth and the onset of the menarche, we often see further physical expenditure in hard physical labor, pregnancy, birth, lactation and the care of their children. These normal transitions impose such a strain on the being that they are susceptible to an abrupt increase in adult forms of tuberculosis. Contemporary observers have seen similar changes in youths with Hansen's Disease[3].

Some reasons for this adolescent response remain obscure. There is need for the epidemiology of maternal and child health; workers in growth and development fields need to explore how life patterns, nutritional lacks and socio-economic stress influence these major diseases that afflict humankind.

Pregnancy, childbearing and lactation are the basis for the worsening of Hansen's Disease[4]. Maternal and Child Health Care, and other preventive services, may help fortify young people through the anticipated stresses of maturation and childbearing in order that these normal events do not overwhelm individuals and families, and predispose to pathology.

Early longitudinal studies on the nutrition and metabolism of adolescent girls, most of whom had tuberculosis[5,1], revealed relationships between adolescent increase in tuberculosis and failure to meet nutritional requirements of that growth period.

Various diseases and disorders may occur simultaneously in the same patients and often act synergistically. Each becomes more severe because of the presence of the other. They reinforce each other in their destruction. Workers in the international field observe that apart from leprosy, children suffer from malnutrition so severe that countless other illnesses invade their emaciated bodies. Among frequent co-existent maladies are tuberculosis, rickets and the dysenteries — bacillary and amoebic — with their sequelae of malabsorption and worsening malnutrition.

### Now along comes AIDS

At this moment, the world-wide scourge of AIDS is a prime concern. This disease strikes at the heart of both Hansen's Disease and tuberculosis control. Each of the latter finds its victims and retains a hold at times of the host's low immunity. AIDS, a disorder of immunity, lets old diseases take a new grip on hosts who might once have been able to resist.

These immunity interrelationships have special meaning in Africa where AIDS, Hansen's Disease and tuberculosis all hold sway. They all warrant study and need to be considered wherever any of the three diseases enter the clinical scene. Other immune-compromised groups and individuals rouse concern. Tuberculosis among the aged is now a major problem in tuberculosis control. It remains to be seen whether the lowered immunity of the elderly affects their Hansen's Disease vulnerability.

High risk attached to a particular age group is a signal for preventive action.

### Measles Devastation

Certain *acute* communicable diseases also alter immune competence. Measles is especially devastating. It has long been known that a patient with tuberculosis loses his positive tuberculin during and even after an attack of measles, a sign that his "fight" has gone, and that he lies helpless before the juggernaut of tuberculosis. When measles strikes a country or community where tuberculosis is prevalent, one sees tuberculin reversal. Grave or fatal miliary spread of the tuberculosis, often with tuberculous meningitis takes place, with death or damaged survival as a consequence.

This raises apprehension about the potential effect of measles on resistance to Hansen's Disease. Fortunately, there are now measles vaccines, so we can move beyond speculation into immunization programs. Such programs not only provide specific resistance to measles, but furnish secondary protection in other diseases which might encroach during the immune-slump that accompanies and trails after measles.

### What about Hawaii?

The causative organism, *Mycobacterium leprae,* was first identified in Norway by Dr. G. Armauer Hansen, for whom the disease was later named. The year was 1873, the same year that Father Damien came from Belgium to the Hawaiian Islands. The disease had no ancient tochold in the islands, but first appeared around 1830, probably arriving from Europe or Asia. It is now considered to be endemic here.

The peoples of the world have passed through these islands as a journey-station, or have stayed and made a home here. We are a gateway community with global ties that include lands where Hansen's Disease has long existed.

Hawaii's physicians are not confined to the local setting; they often find themselves participating professionally in far parts of the world. "Find themselves" is an apt phrase, for in their wider relationships they often find expanded personal and professional identity in themselves. When a physician travels, he takes along

*(Continued)* ▶

his own form of "prepared mind." "Chance" is always out there, ready to pop up and send a signal to that mind.

Hawaii has a youthful population with a median age of 31.9 years. Because half of our people are below that age, we need to watch for pathology that can orginate in early years yet leave lifelong damage. A young population is vulnerable to Hansen's Disease, but responds well to control measures. Case-finding proves rewarding.

Hawaii has the highest incidence of Hansen's Disease in the United States, although for several recent years, California has had more cases each year. Hawaii has 25-50 new cases annually, only a few of whom are born residents[6,7]. The disease also arouses diagnostic concern in New York, New Orleans, San Francisco, Boston, and other American cities receiving newcomers from lands where Hansen's Disease is prevalent.

The World Health Organization estimates the prevalence of clinical leprosy in the world to be 11.5 million cases, although only 5.3 million are actually registered[8]. Hawaii has some 630 patients on the State's Hansen's Disease Registry.

When a local physician suspects Hansen's Disease, he has resources to which he can turn. The Hansen's Disease Community Program (HDCP), the Department of Health's program for outpatient care, is a part of the Communicable Disease Division and responsible for most of the patients on the Registry. Local practitioners provide primary medical care and work closely with the Program. The Program sees all new patients for classification and patient education, monitors the course of treatment, and serves as consultant to private physicians. The Program staff includes physicians, nurses, a social worker and paramedical assistants.

Education is a foremost need at every level. Patients, families and communities need help and so do physicians and other involved professional workers.

There is a need for pre-service preparation in medical school and continuing education from then on; for example, Hawaii's physicians can keep up through the Continuing Medical Education (CME) programs that are provided. School health physicians and nurses need such continuing support and updating; so do other workers in preventive medicine and public health.

## Challenge and Opportunity

The prime challenge and opportunity for Hawaii in relation to Hansen's Disease is to become the training nucleus for medical and public health work in that disease among the populations of the Pacific Basin. Hawaii's existing resources provide an exemplary foundation for training and service.

As shown above, help is needed along the continuum of the disease and through the stages of the life cycle. From prevention on through treatment and rehabilitation help is indispensable and available. Hawaii has the needed talents to launch and sustain such programs. Among these are the medical specialties and skills that are clearly and specifically recognized as essential in the Hansen's Disease field, for example neurology, ophthalmology and dermatology. Other related specialties include pediatrics, obstetrics, plastic surgery and rehabilitation, not to mention preventive medicine. Their involvement in training and service would entail collaboration between various disciplines, specialties of clinical medicine and of public health. The result would be quality service. Such collaboration could vitalize the individual work of participants, not only in their Hansen's Disease work but in other aspects of their careers.

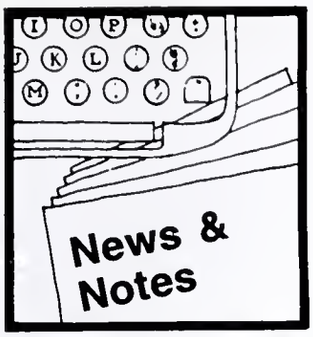
## Summary and Conclusions

1. Hansen's Disease is a chronic disease found in every continent in the world and among all ethnic groups.
2. Hawaii is neither a "hotbed" of the disease nor a place where the disease is absent.
3. Hansen's Disease is endemic in these islands, but we also have problems and resources for coping with it.
4. Current treatment approaches to clinical and public health aspects of the disease now offer hope.
5. There is a continuing need to educate patients, families, communities and professional workers in the many aspects of this disease.
6. Opportunity exists for Hawaii to become the training nucleus for medical and public health approaches to Hansen's Disease among the populations of the Pacific Basin.

ACKNOWLEDGEMENT is also made to Charles J. Hardy for his helpful discussions.

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HENRY YOKOYAMA, MD

## Miscellany

The Doctor stood at the Pearly Gate
His face was worn and old.
He meekly asked the man at the gate
Admission to the fold.
"What have you done," St Peter asked,
"To deserve admission here?"
"I was a Doctor down on earth
for many and many a year!"
The gates swung open sharply
As St Peter tolled the bell
"Come in," he said "and take a harp,
"You've had enough of hell."
(Contributed by Ralph B. Cloward)

## New 20/40 Line for Snellen Eye Chart

"A patient was seen in the office from Hawaii State Hospital with trauma to the right eye. He was asked to read the eye chart. He read well to the 20/50 line and then started to read the 20/40 line with some hesitancy. . .

I thought I would give him a little help by reading the first two letters of the line and started to say 'F..Z..' but he suddenly said, 'No!' and slowly read, 'F..U..C..K..!'

I quickly turned to the chart and thought perhaps the 20/40 letters had blurred and were out of focus, but not so! . . . It was mind over matter . . . Needless to say, I thought it pretty amusing.

(As related by Robert Lee, Jr, ophthalmologist)

(Ed: Thanks for your contribution. . .)

## Life in These Parts

*Ruminations:* Why is it that the car in front stopped at a tight intersection always waits for the light to turn green before signaling a left turn?. . .

We saw a young mother from Japan carrying her infant piggyback (Ombu style) in the heart of town . . . We were taught to shun the practice because it caused the turnip-shaped bowleggedness in Japanese women . . .

*Canoe Crossing:* As we drive into Ala Moana Park along the yacht harbor, a sign reads: "Canoe Crossing" . . . We conjure a vision of channel-crossing canoes sprouting legs and lumbering across and tying up traffic . . .

*Cardiologists Take Their Own Advice:* (From Ray Nagel's column "Healthwise")

The Wall Street Journal (May 11) reported that 400 cardiologists were interviewed with the following findings:

95% do not smoke

72% are on low cholesterol diets

63% get a good cardiovascular workout 3 or more times a week

41% take one aspirin 3 to 4 times a week

*Vog Study:* Since October last year, 2 groups of asthmatics and 2 classrooms of fifth graders on the Big Island have been part of a research project on the health effects of volcanic smog. The project is funded by the Leahi Trust and coordinated by the American Lung Association of Hawaii. Hilo physician Ben Ono is one of the three principal investigators; Oahu investigators are Carl Hallenborg and Wallace Matthews. Ed Morgan, Alan Furuike and James Morrow are the investigators in the air sampling project . . .

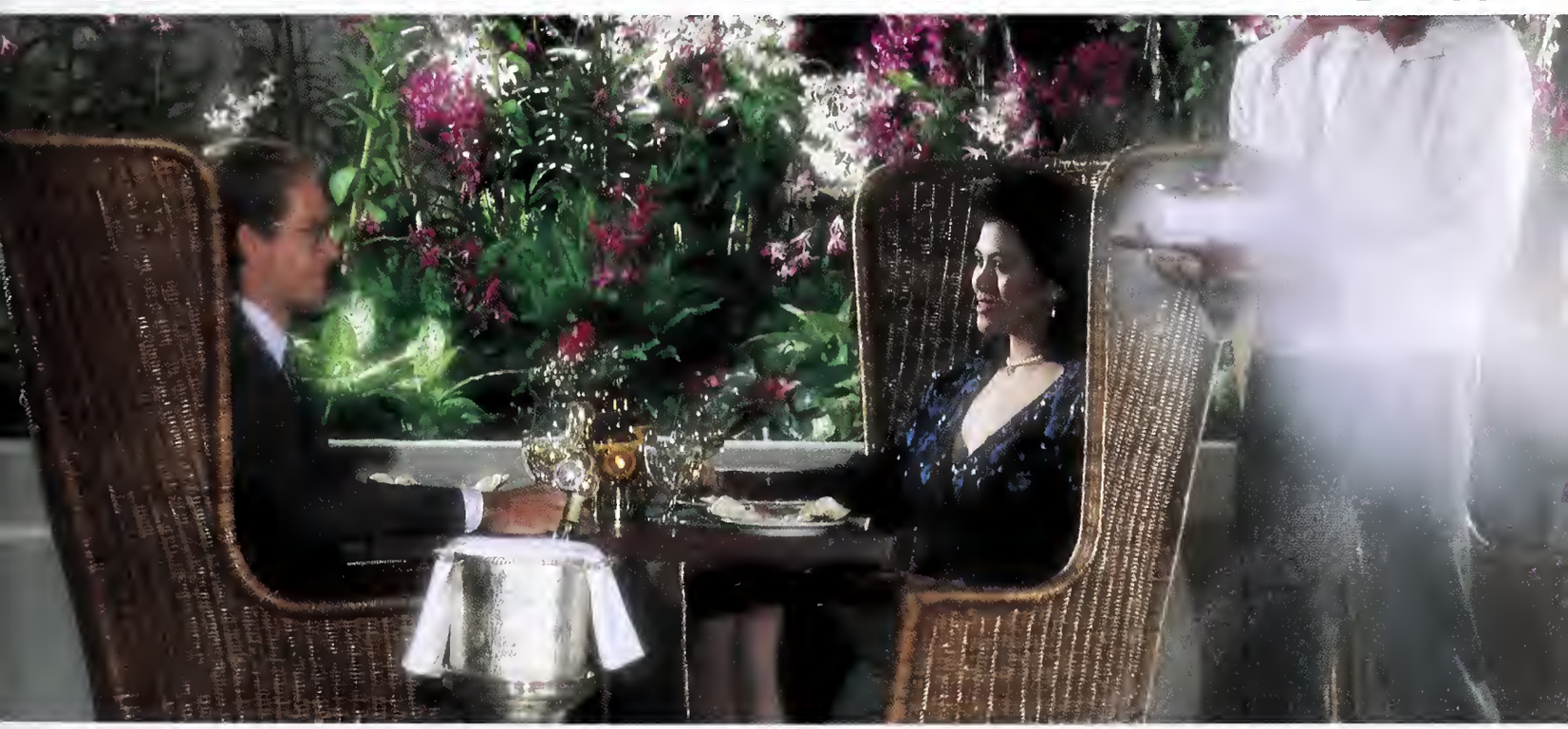
*On Farting:* Wes Young in his column "Check Up on Health" reports that normal people pass gas about 12 times a day, but the amount can increase tenfold with certain foods . . . especially with chili, Portuguese bean soup, kim chee and other island favorites . . . (Ed: The trick is control so it passes slowly and soundlessly and to avoid blushing in a crowd. . .)

*Fish Poisoning:* Wes Young also writes, "The presence of ciguatera toxin is highly variable, changing with time, location and from fish to fish ... Although researchers at the U of Hawaii are looking for easy ways to identify affecting fish, no simple test is yet available. (Ed: U of H pathology professor Hokama is the foremost authority on ciguatera poisoning and has developed just such a simple test which is yet to be marketed. . .)

*Echoes from Old China:* "K.S. Tom, former chief of OB at Kapiolani is now finding great success as an historian/author. His 'Echoes from

*(Continued)* ▶

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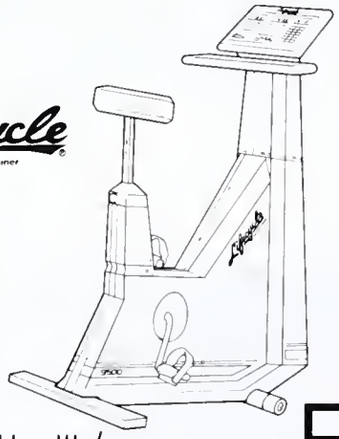
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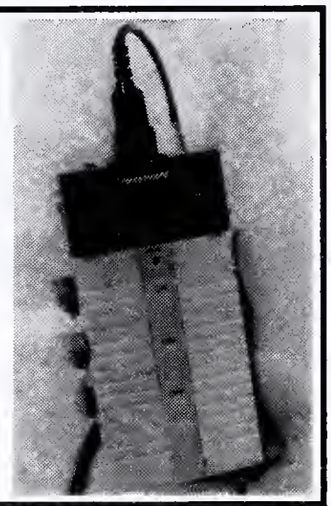
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## NEWS AND NOTES *(Continued)*

Old China' (UH Press) sold out its first printing of 2,000 and is into a second printing of 1,500." (Don Chapman, June 8)

*Pee Wee Football:* Orthodpod Jack Goldstein says Pee Wee football produces fewer injuries than its more aggressive high school counterpart. Younger children in all sports may suffer less long-term damage for the simple reason that injuries like a broken bone heal more quickly... Fellow orthopod Allen Richardson concurs and says most of the problems of young athletes are simple strains and sprains. "I think things have improved a lot in the past 10 years. There's incredible awareness of the term 'sports medicine' and people think to call somebody who does that kind of care."

*Personalities:* Part-Hawaiian Ralph Beddow, state health board chairman is "painfully aware that Hawaiians have the worst health profile in the state." Ralph urges those of Hawaiian descent to enter the health field. Ralph is a prime example of a local boy who did good. "Attitudes of his family and society made him ashamed of being part-Hawaiian and he was resentful. He had problems at school, flunking classes and getting a tooth knocked out." Then came uncle Abraham Kekipi who sent him to St Louis College and promised to help him with college. Kekipi told Ralph a bitter truth: "You'll never get anywhere in this community. Get yourself a profession. Be your own boss." "So many people were backing me up, and I was the first one around to go to college ... There was so much expectation, so much faith in me that I had to prove myself." And he did. He became a fellow at Mayo, head of Straub endocrinology for 27 years, member of the Straub board for 10 years, established the Straub Diabetic Center of the Pacific. Ralph says, "I didn't get into this for money. You can wear only one pair of pants at a time and drive only one car. I'd go nuts sitting in the sun and drinking cocktails." Straub colleague Bob Nordyke who has observed Ralph at board meetings says Ralph sets things straight with the moral power of a Lutheran bishop... (Excerpts from S.B. writer, Murry Engle's article of June 22)

*Postage Stamp Test* (Gleaned from the May Issue of Medical Aspects of Human Sexuality): About 40 to 50% of diabetic men are impotent. The presence of nocturnal erection generally rules out an irreversible organic cause of impotence. A "postage stamp" or similar test may help determine the presence of nocturnal erection. The patient is instructed to circle his non-erect penis with several postage stamps (making a snugly fitting ring) prior to retiring at night. A tear in the stamps by morning signifies that the patient had an erection...

*Some Great Conference Jokes Recalled:*

"I must be a mushroom
I am kept in the dark
And they feed me bullshit."

(From a Marion Lab sponsored lecture, "Ulcers in the Elderly.")

## Professional Moves

(Gleaned from newspaper ads)

March: Neil Manago joined the staff of Anesthesia Associates Inc. at 321 N Kuakini Ste 306... The staff now includes Luke Tajima, Edwin Ichiriu, Takeshi Kishida, Frank Chang, Henry Watasaki, Bill Montania, Maughn Matsuoka, Robert Tanaka, Gilbert Korenaga Jr and Reid Manago...

April: Internist Susan Hayes opened at 1055 Kalo Place Suite 100, Honolulu...

May: Michael McDonald opened a family prac-

tice office at the Island Surf Bldg, Ste 18 in Kihei, Maui. . . Michael was a Maui orthopod who took a hiatus of 5 years to develop real estate and travel...

April: Internist Douglas Bell II joined the Ala Moana Medical Clinic at 1441 Kapiolani Ste 415 ... The clinic members include OB Gyn man J.B. MacMillan III and GP B.N. Odegaard. . .

July: FP Larry Yokoyama joined John Aoki in Family Practice and Sports Medicine at 641 Kailua Road, Kailua, Hawaii. . .

## Appointed, Honored and Elected

Ralph Hale was elected president of the Association of Professors of Gynecology and Obstetrics . . . Ernest Bade of Hilo and both Helen Percy and Darcel Gilbert of Lahaina finished their 150 hours of continuing medical education to renew their membership in the AAFP. . . Cosmetic surgeon Bruce Chrisman placed third in the Hawaiian-theme categoryof the Hawaii Jewelers Association design contest. . .

## Sportsmen

*Of Golf Handicaps:* In Japan the golf handicap is the outrageous membership fee. In May when the Tokyo Stock Exchange plummeted, a 60-year-old businessman was ecstatic: "All I could think is that now, at last, maybe, I will be able to afford a golf club membership." Golf club memberships are bought and sold on a special trading room floor as negotiable instruments just like stocks and are listed in the Nikkei Golf Index. . .

The average membership in a private club costs 40 million yen or $258,065. The most expensive golf membership in Japan is the exclusive Koganei Golf Club which has a 300-member limit and membership costs $2.4 million. . . (Ed: How times have changed. . . We remember playing at Koganei once weekly for a dollar green fee and a pack of cigarettes for caddy fee . . . That was 40 years ago when the US Army Speeial Services still ran the golf courses in occupied Japan. . .)

## Physicians Speak Up

Excerpts from Robert Brown's "'Healthwise" (West Hawaii Today, May 20)

"The French philosopher, mathematician and physician Rene Descartes popularized the notion that we are born into this world as a *tabula rasa* or 'blank tablet'. The mind he reasoned was like a huge, but empty chalkboard upon which the sensory experiences of life are written out in the form of discrete memories... 'We think, therefore we are...'

We are alive and filled with all those memories that judge the present and the future — We mate, we procreate, we grow old and then we leave this world of physical sensations . . . Throughout it all, memories of the past create the expectations for the future and in between we spend our lives in passage. . .

One out of four will die long before you drop and your mind and all of its memories are going to be erased years before you're buried — A blank tablet once again — It's called Alzheimer's Disease . . . The part of the brain that stores memories dies off, but the rest of you stays quite healthy. . ."

In a happier note, Bob writes: "As a civilization, we are making progress . . . Research does ultimately come to an end . . . We're still looking for the cause of Alzheimer's and we will find its cure."


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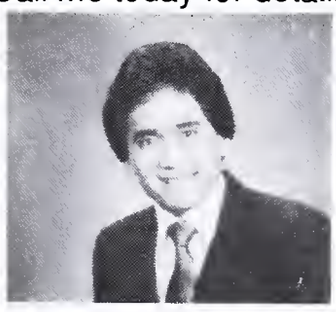
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# Maka O Ka Kauka

RUSSELL T. STODD, MD

**Never put off till tomorrow what you can put over today.**

It really happened! The patient, two weeks after cataract surgery, read the 20/30 line with ease. "Too bad, doc. The operation was a failure. You probably used two stitches. I still cannot play the ukulele!" Yes, but you can hit the softball, and you can see the pretty flowers!

**The most exquisite folly is made of wisdom spun too fine.**

In 1986 Congress enacted the Health Care Quality Improvement Act (HCQIA). For physicians, the act was designed to serve two specific purposes: first, to provide limited federal antitrust immunity for physicians performing "good faith" review, and second, to create the National Practitioner Data Bank. Congress wanted to reverse the death knell of peer review precipitated by the Patrick case in Oregon, and also to establish a Data Bank to track the "black hat" physician who moves from one medical community to another, thus completely avoiding any penalty for past sins. Laudable legislation. Sadly, what Congress intends and what the bureaucracy designs are rarely the same thing. The establishment of the Data Bank was left to DHHS to create, define and regulate. DHHS in turn gave the chore to the US Public Health Service, and USPHS signed a contract with UNISYS Corporation for 5 years at $15+ million to put the wheels on it. Four years after Congress acted, the Data Bank is a bureaucratic quagmire, still struggling toward parturition — and as presently defined, it threatens us all. Input will come from malpractice insurers, professional societies, hospitals, PROs, HMOs, IPAs, and PPOs and go directly to the state medical boards which must report to the Data Bank. Retroactive adverse data will not be included. The errant physician will supposedly be

informed of an entry in the bank, and he/she will have 30 days to convince the "source" that the datum should not be reported, and only the "source" can withdraw the report. Failing that, an additional 30 days will be allowed to appeal to the Secretary of HHS. Once in the bank, the information cannot be removed. As presently defined any and every item, from hospital records delinquency or a paltry nuisance lawsuit, to a negligent death of a patient, goes into the Data Bank, never to be expunged. Supposedly, UNISYS will build in safeguards to prevent unauthorized access. And if you believe that, perhaps you would be interested in these diamonds found in a nearby crater. Big Brother is ever closer.

**You and I know there is a correlation between the creative and the screwball. So we must suffer the screwball gladly.**

The May 1, 1990, *Ocular Surgery News* carried a lengthy interview with William C. Hsiao PhD, the Chinese-born Harvard-educated economist who is responsible for the nascent revolution in medical reimbursement referred to as the RBRVS. The system has "the potential of changing the face of medicine and deterring the overutilization of services." Certainly the first half of that statement is true, but the latter is not. Many studies have shown that overutilization is directly related to first dollar coverage, a factor not included in the RBRVS. Fundamentally, the RBRVS is a plan to regulate reimbursement for medical services, an additional building block in the construction of a government managed public utility. Dr. Hsiao was an advisor on economics to President Carter — who was quoted as saying, "In my four years in office, the one group of advisors who proved completely useless were my economists." If for no other reason, the interview deserves your attention to try to comprehend the thinking of a major player in manipulating the future of medicine.

**Politics is the only profession without standards for competence, intelligence or performance.**

California Democrat Representative Fortney Stark (what a guy!) has introduced a bill requiring doctors to be reexamined every seven years in order to qualify for Medicare reimbursement. After all, just because a doctor is licensed to

*(Continued)* ▶


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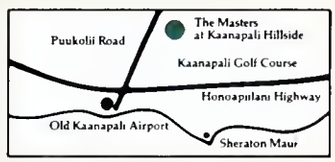
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practice medicine is no assurance he will remain proficient in the future. Apparently, "Pete" (Don't you love him?) Stark doesn't think peer review, CME, or a suffocating Data Bank is sufficient. If it becomes law, DHHS will be named to administer this additional piece of worthless regulative crapola.

**I never think of the future; it comes soon enough.**

Joseph Noreika, MD, relates in the AJO that ophthalmology absorbed a 33% increase from 1976 to 1986, with practitioners numbering 11,455 in 1976 and expanding to 15,180 ten years later. This, combined with 26,000 optometrists in active practice, portends a further saturation of the eyeball marketplace. He foresees a major oversupply of eye surgeons. The Federal Trade Commission has zealously policed any attempts by organized medicine to limit practitioners, threatening anti-trust action if the issue is even discussed in a forum. However, even Wilbur Cohen (remember him?) came to recognize that medical services do not follow the laws of supply, demand and price, and at last, some legislators and their advisors are recognizing that increasing physician supply means added use, ergo rising expenditures.

**A man's foibles are what make him lovable.**

Another golden boy politician is headed down the trail behind Gary Hart, Jim Wright, and Tony Coelho. Senator David Durenburger, the Republican who appeared to be so intelligent and so attractive in his early years in the Senate, has come a cropper with the Ethics Committee. Money, sex, and the lust for power, according to the *Wall Street Journal*, have turned a one-time Mr. Clean into a fallen idol. And what else did you learn in law school, Senator?

**Pale death, with impartial step, knocks at the poor man's cottage and at the palaces of kings.**

The difficult question of a patient's right to die, or to insist that his doctors withhold or withdraw treatment, currently is a matter of state law, but Congress is now intent on establishng national policy. Senators Moynihan and Danforth have proposed an amendment to the Social Security Act which would mandate all hospitals and nursing homes to make appropriate documents available at the time of admission to ensure the patient's wishes are carried out. Suitable explanations and ethics committees would be maintained.

**A good slogan beats a good solution.**

Recent heavy marketing pressures with slick television promos, newspaper and magazine ads, is J&J's (Acuvue) attempt to trivialize the wearing of extended wear contacts — "wear them a week, then discard them" — supposedly safe, clean and comfortable. Acuvue was even named a "best new product" by the American Marketing Association. In the words of G. Gershwin, it ain't necessarily so. Ulcerative keratitis continues to lurk within the EWSCL, 10 to 15 times greater than the DWSCL, and Acuvue is no exception. Informed consent is necessary, as always.

**La triviata —**

— On an average day in the US, 169 women and 56 men have plastic surgery on their noses.

— 60.3% of phone numbers in Las Vegas are unlisted; Washington 26.2%; Minneapolis 15%.

— A woman in California has introduced LaFuenelle, a disposable paper funnel that permits women to urinate while standing up.

— 24% of American children are not immunized against polio or measles.

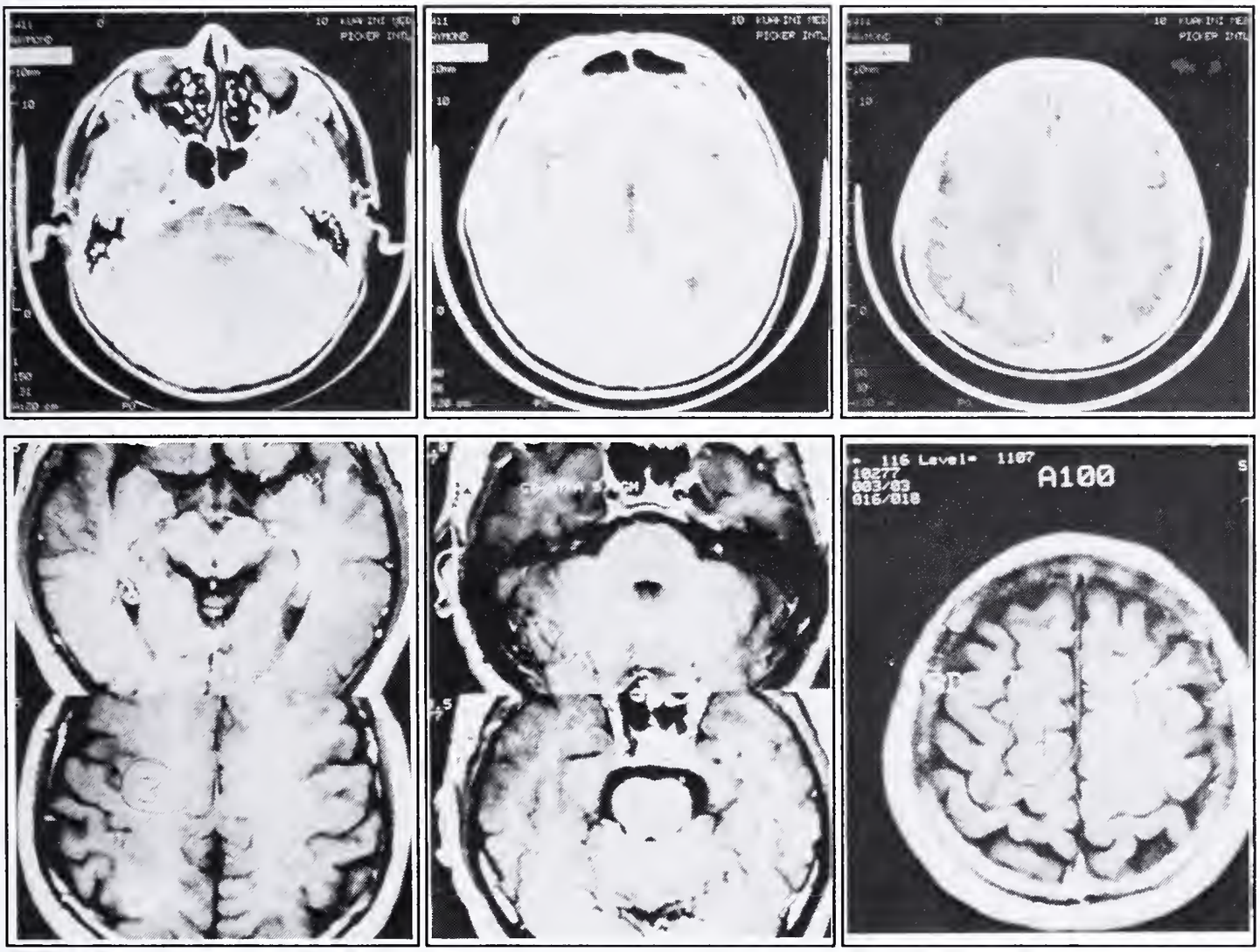
— What has 18 legs and 2 mammary glands? The Supreme Court.

Aloha and keep the faith,
RTS
From the Weathervane, June 1990

# MRI CASE OF THE MONTH

## MULTIPLE LUNG METASTASES TO THE BRAIN

**CLINICAL HISTORY:** Sixty-one year old male with history of lung cancer. CT showed solitary lesion in right parietal lobe.

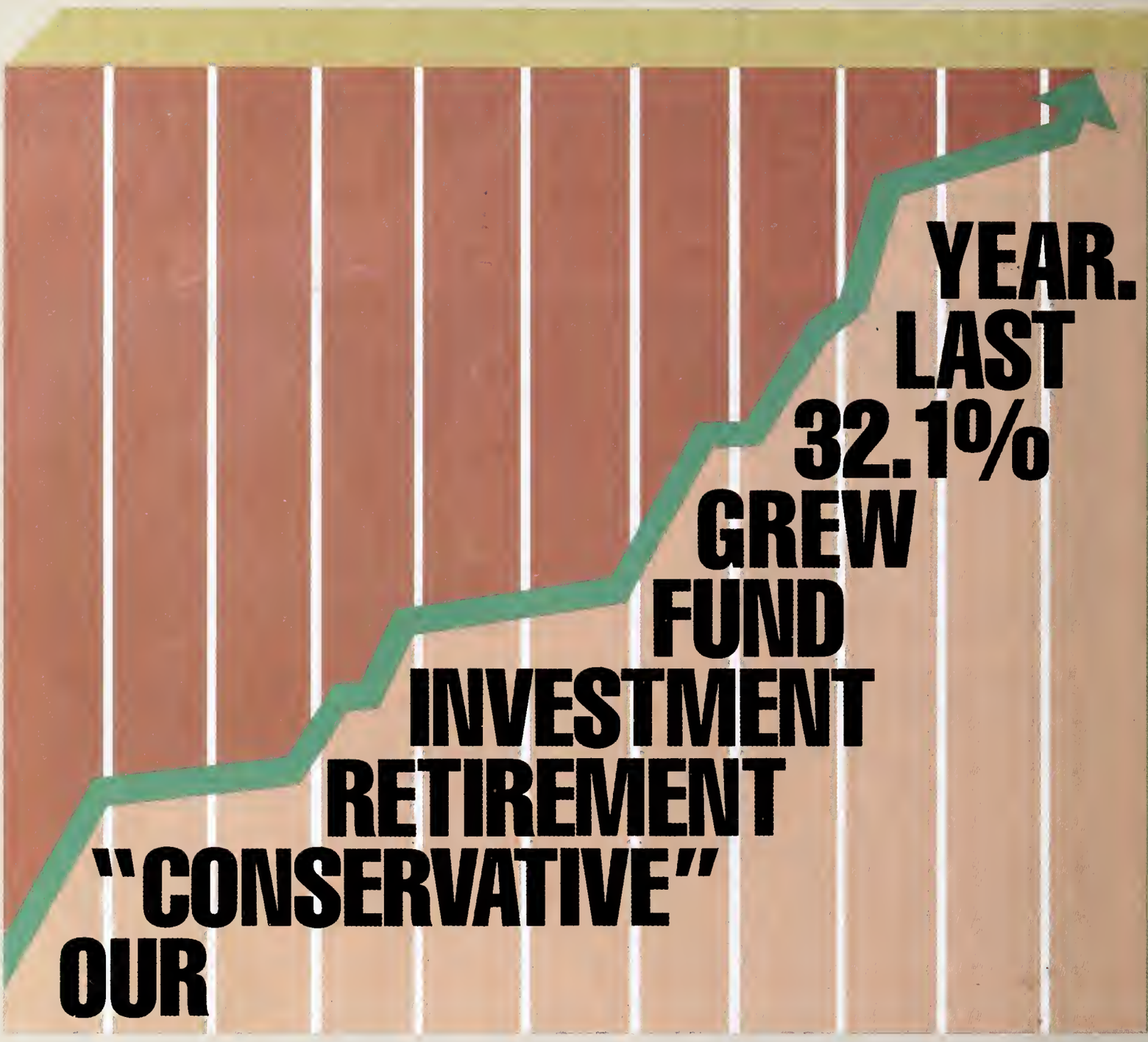



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## CONTENTS

**EDITORIAL** 324
**A look ahead**
J.I. Frederick Reppun MD

**HMA COUNCIL MEETING** 325

**COMMITTEE REPORTS** 326

**CONTINUING MEDICAL EDUCATION** 329

**INCIDENCE OF CHLAMYDIA TRACHOMATIS INFECTION RELATED TO SELECTED SIGNS AND SYMPTOMS OF LOWER GENITAL TRACT INFECTIONS IN WOMEN** 332
Shawna S. Brizzolara MD
Thomas S. Kosasa MD
Herbert S. Uemura MD

**THE APPROPRIATE USE OF TECHNOLOGY (PARTICULARLY IN MEDICAL PROBLEMS OF THE ELDERLY)** 340
Fred I. Gilbert Jr. MD

**THE 1988-1989 DECUBITUS STUDY** 346
Martha Lou Hefley MD
Jan Radcliffe, RN

**NEWS AND NOTES** 352
Henry Yokoyama MD

**MAKA O KA KAUKA** 358
Russell T. Stodd MD

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Editorials

# A look ahead

Fred Gilbert Jr has been in the practice of medicine long enough to be able to sit back and philosophize on its trends as the future keeps opening up before us. In this issue of the *Journal,* he contemplates the role of "technology" as it relates to the care of the whole patient.

Besides being an astute internist with a broad vision that encompasses much more than his own patients, to the extent of being well-known throughout Hawaii, the Pacific Ocean basin and its perimeter, and even the world, Fred helped pioneer the medical use in Hawaii of the nuclide offspring of the C-section on the atom the past 40 years.

Obviously, it is so much easier for a busy physician to order and rely on diagnostic procedures to be done and then handed to him on a silver platter — all too often even before he sees and examines the patient. In fact, our patients have been thus trained; their concept of a "complete physical" is to have laboratory and x-ray exams, scans, etc. done "to make sure I don't have cancer somewhere, Doc." The physician is then expected to review the data and give the patient the verdict. If the physician then uses his eyes, ears and fingers on the disrobed physical person, the patient appreciates the "bonus."

As Fred points out in his treatise, it should be the other way around. We agree. It is the detailed examination of the patient's complaint, the history and then the physical, that can lead the physician in the direction of appropriate "high or low technology" testing, as Fred calls it. We repeat the adjective: *appropriate*. That is the simplest and least expensive way to bring about cost control without sacrificing the quality of medical care.

We disagree with Fred on two points: (1) The "pie" — the portion of GNP occupied by health care, particularly the care of our ever-increasing numbers of the elderly, need not be finite; and (2) generalists can indeed be very good peer reviewers of the specialists to whom they refer their patients, specifically because generalists do not have the conflict of interest inherent in the case of a surgeon, whose turf may be threatened by the examinee (the surgeon being reviewed).

J.I. Frederick Reppun MD
Editor


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# Highlights of HMA Council Meeting of July 6, 1990

There was no June meeting of the council. At the July meeting, the following items were considered.

Members present at the meeting included: Drs. J. Kim, J. McDonnell, J. Chang, M. Shirasu, A. Kunimoto, C. Kam, S. Wallach, R. Weiner, F. Holschuh, D. Heeney, A. Jacang, W. Young, H.H. Chun, P. DeMare, M. Dung, M.L. Hefley, J. Spangler, E. Bade, R. Goodale, D. Fu, T. Smith, R. Ando, G. Goto, J. Lumeng, W. Dang, N. Winn, and resident physician delegate J. Nakama. Also present were Dr. F. Reppun, Editor-HMJ; legal counsel V. Woo; medical student N. Kaneshiro, and guests Dr. Ramon Sy and Lillian Uy. HMA staff present were: J. Won, N. Jones, J. Asato, P. Kawamoto, J. Estioko, C. Sugita, L. Funai, and M. Lindsey, recording secretary.

• The secretary reported the total membership at the end of June to be 1,761, an increase of 44 from one year ago.

• The treasurer's report noted the dropping of 48 members (bringing the total to 1,757) for non-payment of dues. Efforts will be made to reactivate these physicians.

• Representatives of the Aloha Medical Mission (AMM), Dr. Ramon Sy and Mrs. Lillian Uy asked for and received support of HMA in its new quest to assist the less fortunate in Hawaii as they have in the Philippines. The AMM will provide support and services to the Waikiki Health Clinic to assist more people.

• Additional funds were approved for the HMA Public Relations Committee to increase the news media awards given each year and to cover the cost of dinners for the finalists and their bosses.

• HMA leadership announced its intention to conduct a poll of HMA members, the community, and other health groups regarding the role of nurse practitioners and the issue of their prescribing authority to find out how people feel on this issue.

• The council approved the recommendation from Honolulu County Medical Society for establishment of a special dues category of 50% waiver from regular dues for physicians employed full-time by community health clinics that serve a disadvantaged population.

• Reports were made by delegates who attended the AMA annual meeting.

• It was announced that Dr. Lei Siri Hundahl will be a candidate for the State House in the 28th district. It was also announced that Ms. Lisa Pang Tong will be joining HMA as Assistant Executive Director for Legal and Legislative Affairs.

Myron Shirasu
Treasurer


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## Committee Reports

# HMA Chronic Illness & Aging Committee Meeting June 13, 1990

At its June 13 meeting under the chairmanship of Walter Quisenberry, this HMA Committee had as its guests Gail Haruki and Marilyn Seely from the Executive Office on Aging of the State of Hawaii. Members of the Committee and other guests present and participating in the discussion were: John Kim, Betty Anderson, Ray DeHay, Reuben Guerrero, Gary Johnson, George Mills, Kleona Rigney, Verne Waite and Ms. Lau as well as your reporter. We submit the highlights:

Haruki went over the list of the bills and resolutions affecting the elderly which were passed by the 1990 regular session of the State Legislature that adjourned in April and were awaiting the Governor's signature. The following were the important ones:

**HB 1251** appropriated $100,000 for FY '90-'91 to extend the housing demonstration project for the elderly.

**HB 2908** was intended to place a ceiling of 75% of the annual medical assistance cost to maintain the case load of personal care services expenditures at the present level.

A considerable discussion took place in-committee on the urgent need for such care services that are now not covered adequately because of restrictions based on levels of care related to SNF and ICF.

**SB 1398** requires all health insurance policies to include minimum coverage of screening mammograms for women ages 35 and on up.

**SB 2560** appropriated $200,000 for FY '90-'91 as initial funding for the housing alteration revolving loan fund for persons with physical disabilities.

**SB 2617** was to increase the resources and income of a spouse of a medically institutionalized person = to or >$60,000.

**SB 3146** was to adjust the expenditure ceiling for services by Nursing Home Without Walls (NHWW) to not exceed 75% of the annual Medicaid cost for institutional care, as a whole and not per case; expenditure for the latter is based on need, averaging $3,000. The program asked for $3 million but was granted only $1 million, of which $350,000 goes to respite care.

Seely commented that other states are amazed at Hawaii's health care programs. She also stated that here we have a severe shortage of caregivers; NHWW is restricted by regulations that limit its role to ICF and SNF levels in the patient's home, but there is now an agency that funds "caregivers" to a certain extent, as compared with the brief services given by professionals at SNF and ICF levels.

Betty Anderson of the DoH reported that 500 certified Nurses' Aides are due to graduate from Kapiolani Community College this July. This was welcome news. She also said that Congress was planning to appropriate $66 billion to fund federal long-term care; also that 700 Hawaii physicians have signed up so far to service the new SHIP (State Health Insurance Program) patients.

Practicing physicians are reminded that the number to call for information as to the availability of care for their patients is 523-4545 — the City and County Office of Elderly Affairs Information.

J.I. Frederick Reppun MD
Reporter



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| | Audi V8 | BMW 535i | Infiniti Q45 | Lexus LS 400 | Mercedes 300E |
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| TRANSMISSION | 5 | 4 | 9 | 9 | 1 |
| RIDE | 1 | 5 | 5 | 10 | 5 |
| HANDLING | 9 | 7 | 6 | 8 | 6 |
| NVH (Quietness) | 1 | 6 | 6 | 14 | 6 |
| EXTERIOR | 4 | 9 | 4 | 7 | 4 |
| INTERIOR | 3 | 7 | 5 | 7 | 5 |
| COMFORT | 2 | 5 | 7 | 9 | 5 |
| ENTHUSIAST'S CAR | 9 | 10 | 5 | 7 | 5 |
| BEST VALUE | 3 | 4 | 5 | 9 | 3 |
| **TOTAL** | **40** | **64** | **63** | **90** | **43** |

*Subjective scoring reprinted from Automobile Magazine, Nov. 1989. A total of 300 points were allocated among the editors and spent freely as each saw fit.*



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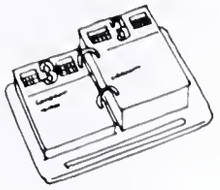
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## CALENDAR OF ACCREDITED EVENTS—CATEGORY 1

Accredited programs of CME allow one unit of AMA credit for each hour of instruction excluding all "breaks." Asterisked programs also are accredited for AAFP prescribed credit.

### LOCAL ACCREDITED PROGRAMS
### ONGOING

**John A. Burns School of Medicine**

1. Department of Medicine
   - A. Case Conferences, second and fourth Tuesdays, 12:30-2 p.m., Queen's University Tower, Room 618.
   - B. Grand Rounds, first and third Tuesdays, 12:30-2 p.m., Queen's University Tower, Room 618.
   - C. Endocrinology Grand Rounds, first Tuesday, 5:30-6:30 p.m., Queen's University Tower, Room 506.
   - D. UH-Queen's Conference, every Friday, 8-9 a.m., Queen's Medical Center, Mabel Smyth Auditorium.
   - E. Cardiology Grand Rounds, third Tuesday, 6:30-7:30 p.m., Queen's University Tower, Room 508.
   - F. Infectious Disease Grand Rounds, first and third Thursdays, 5-6 p.m., Queen's Nalani I Conference Room.
   - G. Dermatology Grand Rounds, second Wednesday, 7:30-9:30 a.m., Queen's Medical Center, Queen Emma Clinic.
   - H. Pulmonary Grand Rounds, fourth Monday, 12:30-1:30 p.m., Queen's Medical Center, Kamehameha Lounge.
   - I. Nuclear Medicine Grand Rounds, third Wednesday, 5-6:30 p.m., Straub Clinic & Hospital, Doctors' Dining Room.
   - J. Medical-Surgical GI Grand Rounds, third Friday, 12:45-1:45 p.m., Kuakini Hospital, PB4 Classroom.
   - K. Rehabilitation Hospital of the Pacific Grand Rounds, first and third Thursdays, 7:30-8:30 a.m., Rehabilitation Conference Room, first floor.
   - L. Neurology Grand Rounds, second Thursday, 12:30-1:30 p.m., Queen's Medical Center, Kam Auditorium.
   - M. Geriatric Medicine Journal Club, first and third Wednesdays, 5:30-7 p.m. or TBA, 9th Floor Lounge, HPM, Kuakini Medical Center.
   - N. Radiology Grand Rounds, every second Tuesday, 5:30-8 p.m., Queen's Medical Center, Radiology Classroom.
2. Department of Obstetrics and Gynecology
   - A. Grand Rounds, Wednesdays, 7:30-8:30 a.m., Kapiolani Medical Center for Women and Children, second-floor auditorium.
   - B. Tuesday Conference, Tuesdays, 1-2 p.m., Kapiolani Medical Center for Women and Children, second-floor auditorium.
   - C. UH Conference, Fridays, 2:30-3:30 p.m., Kapiolani Medical Center for Women and Children, second-floor auditorium.
3. Division of Orthopedics
   - A. Fracture Conference, Mondays, 5-6 p.m., Queen's University Tower, Room 618.
   - B. Shriners' Tuesday Conference, Tuesdays, 7:15-8:15 a.m., Shriners Children's Hospital, Auditorium.
4. Department of Pediatrics
   - A. Grand Rounds, Thursdays, 8-9 a.m., Kapiolani Medical Center for Women and Children, second-floor auditorium.
   - B. Monday Noon Conference, 12:45-1:45 p.m., Kapiolani Medical Center for Women and Children, second-floor auditorium.
   - C. Pediatric Infectious Disease Conference, Thursdays, 12:30-1:30 p.m., Kapiolani Medical Center for Women and Children, third-floor conference room.
   - D. Perinatal Grand Rounds, Fridays, 8:15-9:15 a.m., Kapiolani Medical Center for Women and Children, Conference Room B.
5. Department of Psychiatry
   - A. Grand Rounds, Fridays, 8-9:30 a.m., Queen's University Tower, Room 618.
   - B. Scientific Forum, Mondays, 12:30-2 p.m., Kapiolani Medical Center for Women and Children, Conference Room 626.
   - C. Hawaii State Hospital Psychiatry Education Conference, third Wednesday, 10:30 a.m.-noon, Hawaii State Hospital, Goddard Conference Room.
6. Department of Surgery
   - A. Grand Rounds, first, second, and third Saturdays, 7:30-9 a.m., rotating hospitals.
   - B. Statistical M&M, last Saturday, 7:30-9 a.m., rotating hospitals.
   - C. Journal Club, first and third Tuesdays, 6-8 p.m., Queen's University Tower, Room 620.
   - D. Medical-Surgical GI Grand Rounds, third Friday, 12:45-1:45 p.m., Kuakini Medical Center, PB4 Classroom.
   - E. Pediatric Surgical Grand Rounds, first Friday, 12:45-1:45 p.m., Kapiolani Medical Center for Women and Children, Conference Room B.
   - F. Basic Science Lecture, Wednesdays, 7:15-8:15 a.m., Queen's University Tower, Room 618.
7. Department of Pathology
   - A. Neuropathology Conference, first Saturday, 8-9 a.m., St. Francis Hospital, Sullivan IV Classroom.

*(Continued)* ▶

B. Pathology Grand Rounds, bimonthly, 7:30-8:30 p.m., rotating locations.

For further information on any of these programs, please call the Continuing Medical Education office at 948-6949.

**Castle Medical Center**

1. CME Programs, first, second, and third Tuesdays, 12:30-1:30 p.m., Castle Medical Center's auditorium.
2. Windward Oncology Programs, fourth Tuesday, 12:30-1:30 p.m., Castle Medical Center's auditorium.

For further information, call Staff Development at 263-5186.

**Chart Rehabilitation of Hawaii Inc.**

1. CME Programs, Thursdays, 8-9 a.m. Topics and speakers to be announced.

For further information, or to be placed on the mailing list, contact Comprehensive Health and Active Rehabilitation Training (CHART) at 523-1674.

**Wilcox Memorial Hospital**

1. CME Programs, Mondays (occasional Friday), noon-2:00 p.m., G.N. Wilcox Conference Rooms.

For further information, call Medical Staff Services, 245-1173.

**Hawaii Medical Association**

1. HMA Maternal and Perinatal Mortality Study Committee, on an on-call basis. 1360 S. Beretania St., 2nd Floor. Call 536-7702 to confirm meeting schedule.)

**Hawaii Ophthalmological Society**

1. Monthly Dinner Meeting, third Thursday of each month (except November and December), 6:30-9:30 p.m., The Pacific Club.

**Hawaii Thoracic Society**

1. To be announced—Visiting Professorship Program Statewide.
2. Sinclair Chest Club Quarterly Dinner Meetings, January, April, July, and October. Call Rosemary Respicio, BSN, at 537-5966 for dates and speakers.

**Hilo Hospital**

1. Radiology Conference, first Friday, 12:30-1:30 p.m., GC-1 Conference Room.
2. Tumor Conference, second Friday, 12:30-1:30 p.m., GC-1 Conference Room.
3. "Great Case" Conference/Clinical Pharmacology, third Friday, 12:30-1:30 p.m., GC-1 Conference Room.
4. Pathology Conference/Morbidity-Mortality Review, fourth Friday, 12:30-1:30 p.m., GC-1 Conference Room.
5. Visiting Professor/Network for Continuing Medical Education Tapes (ETV), Saturdays, 7-8 a.m., GC-1 Conference Room.

For further information, call Administration at 969-4382.

**Kaiser Permanente Medical Center**

1. Tumor Board, Tuesdays, noon-1 p.m., Moanalua Auditorium.
2. Obstetrics/Perinatal Conference, last Tuesday, 8-9 a.m., Moanalua Conference Room C-D.
3. Orthopedic Conference, Wednesdays, 8:30-9:30 a.m., Moanalua Conference Room C-D.
4. Laboratory Medicine Seminar, Wednesdays, 11 a.m.-noon, Laboratory Conference Room.

*5. Medicine Grand Rounds, Wednesdays, 8-9 a.m., Moanalua Auditorium.

*6. Interdepartmental Conferences, third Wednesday, every other month (beginning Jan. 1990), Moanalua Auditorium (call CME Office for topic.)

*7. Family Practice Grand Rounds, fourth Thursday, 7:45-9 a.m., Moanalua Conference Room C-D.

8. Surgical Grand Rounds, Fridays, 8-9 a.m., Moanalua Auditorium.
9. Surgery M&M Conference, Fridays, 9-10 a.m., Moanalua Auditorium.
10. Pathology Conference, Saturdays, 11-noon, Conference Room A.
11. Network for Continuing Medical Education (NCME) Videotape Program, Monday-Friday, available on request.

For further information, call CME Office at 834-9496 for topics.

**Kona Hospital**

1. CME Meeting, second Thursday, bimonthly (January, March, etc.), 8-9 a.m., Hospital Dining Room.
2. Grand Rounds/Tumor Board, fourth Wednesday, 8:30-9:30 a.m., Hospital Dining Room.
3. Visiting Professor Programs, (For information, call 322-4429 or 322-4455.)

**Kuakini Medical Center**

1. Visiting Professor Lectures (ongoing).
2. Guest Lectures (ongoing).
3. Neurology Conference, second Monday, 12:30-1:30 p.m., Resident's Conference Room.
4. Neuroradiology Conference third Monday, 8-9 a.m., PB-4 Conference Room.
5. Nephrology Conference, third Monday, noon-1 p.m., Resident's Conference Room.
6. Department of Ophthalmology Meeting, first Tuesday, 12:30-1:30 p.m., Private Dining Room.
7. Internal Medicine Study Club, bimonthly second Tuesday, 6-7 p.m., PB-4 Conference Room.
8. Department of Medicine (M&M), fourth Tuesday, 1-2 p.m., Hale Pulama Mau Auditorium.
9. Endocrine Conference, first Wednesday, 12:30-1:30 p.m., Resident's Conference Room.
10. G.I. Conference, second Wednesday, 12:30-1:30 p.m., Resident's Conference Room.
11. Infectious Disease Conference, third Wednesday, 12:30-1:30 p.m., Resident's Conference Room.
12. Oncology Conference, Thursdays, 7:30-8:30 a.m., PB-5 Conference Room.
13. Hematology and Oncology Conference, first Thursday, 12:30-1:30 p.m., Resident's Conference Room.
14. Pulmonary Conference, second Thursday, 1-2 p.m., Resident's Conference Room.
15. Rheumatology Conference, third Thursday, 12:30-1:30 p.m., Resident's Conference Room.
16. Cardiology Conference, fourth Thursday, 12:30-1:30 p.m., Resident's Conference Room.
17. Surgical Conference, first Friday, 12:45-1:45 p.m., PB-5 Conference Room. (Note: Also fourth Friday, if there are five Fri-

days in a month.)
18. Nutrition Conference, second Friday, bimonthly 12:30-1:30 p.m., Private Dining Room.
19. Surgical Trauma Conference, second Friday, 12:45-1:45 p.m., PB-5 Conference Room.
20. Surgical Mortality and Morbidity Conference, last Friday, 12:45-1:45 p.m., PB-5 Conference Room.
21. Dermatology Conference, bimonthly fourth Friday, 12:30-1:30 p.m., Residents' Conference Room.

**Maui Memorial Hospital**

1. Department of Medicine, first Thursday, 7-8 a.m., auditorium.
2. Department of Surgery, second Thursday, 7-8 a.m., auditorium.
3. Department of Obstetrics & Gynecology, third Thursday, 7-8 a.m., classroom No. 2.
4. Department of Pediatrics, fourth Thursday, 7-8 a.m., auditorium.
5. Fifth Thursday Meeting: 7-8 a.m., auditorium.
6. Tumor Board Conference; second Friday and fourth Wednesday, 7-8 a.m., multipurpose room.
7. Anesthesia Conference, second Wednesday, 7-8 a.m., multipurpose room.

**The Queen's Medical Center**

1. Anesthesiology Conference, first and second Wednesdays, 7-8 a.m., Doctors' Conference Room.
2. Emergency Medicine Conference, third Tuesday, 11:30-12:30 p.m., Ultrasound Conference Room.
3. MICU Lecture, Monday-Thursday, time varies from 2 to 3 p.m., Queen Emma Tower Conference Room 4A, 4B or 4C. (For exact schedule, call 547-4481).
4. Neuro-Radiology Conference, Mondays, 8-9 a.m., Imaging Services classroom, QET No. 2.
5. Ob/Gyn Conference, every Monday, 1-2 p.m., Kamehameha Auditorium.
6. Ophthalmology Conference, fourth Tuesday, 4:45-6 p.m., Doctor's Conference Room.
7. Orthopedic Conference, every Wednesday, 7-8 a.m., Kamehameha Auditorium.
8. Otolaryngology Conference, first Friday, 7:30-8:30 a.m., Imaging Classroom and second Friday, 7:30-8:30 a.m., Harkness Room 139.
9. Pathology Conference, every Wednesday, 7-8 a.m., Queen Emma Tower, fourth floor.
10. Pediatrics Conference, fourth Thursday, 12:30-1:30 p.m., Harkness Board Room.
11. QMC-UH Grand Rounds, Mondays, Wednesdays, and Thursdays, 12:30-1:30 p.m., (Mondays at Kamchameha Lounge and Wednesday, Thursdays at Kamehameha Auditorium.)
12. QMC-UH Medical Conference, every Friday, 8-9 a.m., Mabel Smyth Auditorium.
13. Surgical Conference, every Tuesday, 4:30-5:30 p.m., Kamehameha Auditorium.
14. Tumor Conference, every Thursday, 12:30-1:30 p.m., Cafeteria Conference Room.
15. Advanced Cardiopulmonary Life Support. For further information, contact Nursing Education 547-4373.
16. Community Consortium of AIDS Physicians in Hawaii.
    For further information, contact: David McEwan, MD, 537-2211.

**St. Francis Medical Center**

*1. Oncology Conference, Mondays, 7:30-8:30 a.m., Sullivan IV Classroom.
*2. EENT Meeting, first Tuesday, 7:30-8:30 a.m., Sullivan IV Classroom.
*3. Surgery Grand Rounds, first, second, and third Fridays, 7:30-8:30 a.m., Sullivan IV Classroom.
*4. Dept. of Medicine Morbidity and Mortality Conference, first Thursday of each month, 8-9 a.m. Sullivan IV Classroom. (For SFMC staff members only).
*5. Dept. of Medicine Conferences, Thursdays, except for first and last Thursdays of each month, 8-9 a.m., Sullivan IV Classroom.
*6. Medico-Legal Seminars, last Thursday of each month, 8-9 a.m., Sullivan IV Classroom (Everyone welcome).
*7. Hematology Conference, third Thursday, 12:30-1:30 p.m., Sullivan IV Classroom. (Contact the Education Department at 547-6410 if conference is scheduled for the month).
*8. Internal Medicine Review series, Monday, Wednesday, Thursday, Friday, 12:30-1:30 p.m., Sullivan IV Classroom. (Contact the Medical Education Office at 547-6497 for specific dates of lectures.)
9. Dept. of Surgery Morbidity and Mortality Conference, last Friday of each month, 7:30-8:30 a.m., Sullivan IV Classroom. (For SFMC staff members only).

**Straub Clinic & Hospital**

1. Associates Meeting, first Monday, 5:30-7 p.m., every other month, Doctor's Dining Room.
2. Burns Rounds, first and third Wednesdays, 4-5 p.m., Hospital 3E Conference Room.
3. Cardiac Surgery Conference, fourth Tuesday, 4:30-5:30 p.m., Doctor's Dining Room.
4. Doctors-On-Call, every month date varies, 5:45-6:45 p.m. Straub Waikiki. (For further information, call CME office, 522-3151.)
5. Ophthalmology Conference, third Thursday, 4:30-5:30 p.m., First Insurance Center, Room 950.
6. Friday Noon Conference, Fridays, 12:30-1:30 p.m., Doctor's Dining Room.
7. Gastroenterology Journal Club, fourth Tuesday, 5-6:30 p.m., Hospital 4th Floor Conference Room.
8. Neuropathology Conference, fourth Saturday, 8-9 a.m., Doctor's Dining Room.
9. Patient Care Conference, second Tuesday, 5-7 p.m., Doctor's Dining Room.
10. Surgical Morbidity and Mortality Conference, fourth Tuesday, 7-8 a.m., Doctor's Dining Room.
11. Neuropathology Conference, fourth Saturday, 8-9 a.m., Doctors Dining Room.
12. Video Conference, first Tuesday (may vary, call CME office, 522-3151 for specific dates), 12:30-1:30 p.m., Doctors Dining Room.

    For further information or to request our monthly calendar, call the Office of Professional Activities, 522-3151.

**Wahiawa General Hospital**

1. CME Program, Tuesdays, 1-2 p.m., SNFI Dining Room. For further information, call the Medical Staff Services Office at 621-8411.

    Note: All conferences are subject to change. Monthly calendars are available on request.

# Incidence of Chlamydia trachomatis infection related to selected signs and symptoms of lower genital tract infections in women

Shawna S. Brizzolara MD
Thomas S. Kosasa MD
Herbert S Uemura MD

*Chlamydia trachomatis infections of the female reproductive tract is associated with a spectrum of clinical syndromes from simple colonization to mucopurulent cervicitis, urethritis, proctitis, and pelvic inflammatory disease[1]. Its natural history and tendency for progression is unclear. It is said these infections are the most common of all sexually transmitted diseases[1].*

It is a sometimes difficult organism to verify even in the presence of symptoms. Many classic symptom complexes are attributed and treated as if they are chlamydia infections in spite of a ≤ 50% culture-positive rate of association[2]. In fact, the Center for Disease Control (CDC) recommends treatment without culture for any venereal disease that could possibly be Chlamydia-associated, because the cost to the community of treating chlamydia infections and its sequelae is enormous and rising. The expense of treating an early or subclinical infection, or prophylaxis for a sexual contact, is said to be more cost-effective than treating the sequelae. It has been calculated that screening populations at risk would be even more beneficial[3,4].

In our clinic population, Katz[5-7] has found demographically high-risk family planning patients to have a 7.9% positive screening rate by using a rapid antigen detection method, the direct immunofluorescence assay (IFA). We wanted to see how the 7.9% rate compared with our symptomatic population; thus, we tested 100 patients with 1 of the 2 rapid antigen tests available. We tested women with complaints of vaginal discharge, vaginitis, symptoms of cervicitis, or those who, upon examination, had a mucopurulent cervicitis.

## Methods

*The study population*

The Kapiolani Medical Center for Women and Children (KMCWC) outpatient gynecology department was the site of this prospective study. We had the use of 50 each of 2 rapid antigen tests; the solid phase enzyme immunoassay (EIA) and a direct immunofluoresence test (IFA). Forty-six of each test were completed and 4 of each test were discarded due to mishandling of the test materials. Thus 92 women were tested.

The women selected for testing were those that the resident and attending physicians thought had a high probability of having chlamydia infections. This was based on complaints of vaginal discharge, vaginal irritation or on examination were seen to have vaginitis, cervicitis, mucopus, or abundant white blood cells on a wet-mount slide. We were unable to control for independent decisions by the various physicians when selecting patients for testing, nor for choosing whether or not to treat before the test results were known. There may have been up to 10 physicians performing the examinations and testing. The inherent subjectivity in patient selection, however, does not eliminate the usefulness of the findings in our own clinic population and will help to structure our screening recommendations.

Our clinic population is composed of 20% family planning, 46% obstetrics, 29% gynecologic and 6% other patients. The volume is approximately 800 visits per month.

In this study, patients were selected based on symptoms or findings thought by the physician to be suggestive of chlamydia infection.

*Clinical syndromes*

Mucopurulence was defined by a positive cotton-swab test. After cleaning the exocervix, a cotton swab was placed into the endocervical os and if it had a green or yellow color, it was considered positive.

Cervicitis was defined as an increased friability of the cervix associated with erythema and edema. Friability in our study meant capillary bleeding at multiple sites of the cervix when brushed with a cotton-tipped swab or wooden pap smear spatula.

A positive wet-mount test was the term used when white blood cells more than equaled the number of epithelial cells on a glass slide: A cotton swab was dipped into the vaginal pool at the posterior vaginal forynx, dabbed onto a drop of normal saline and a cover slip applied. Inspection under high power 44/.66 X of the microscope in our clinic was performed by the physician managing the case.

Women with complaints of vaginal discharge or vaginal irri-

(Continued on page 335) ▶

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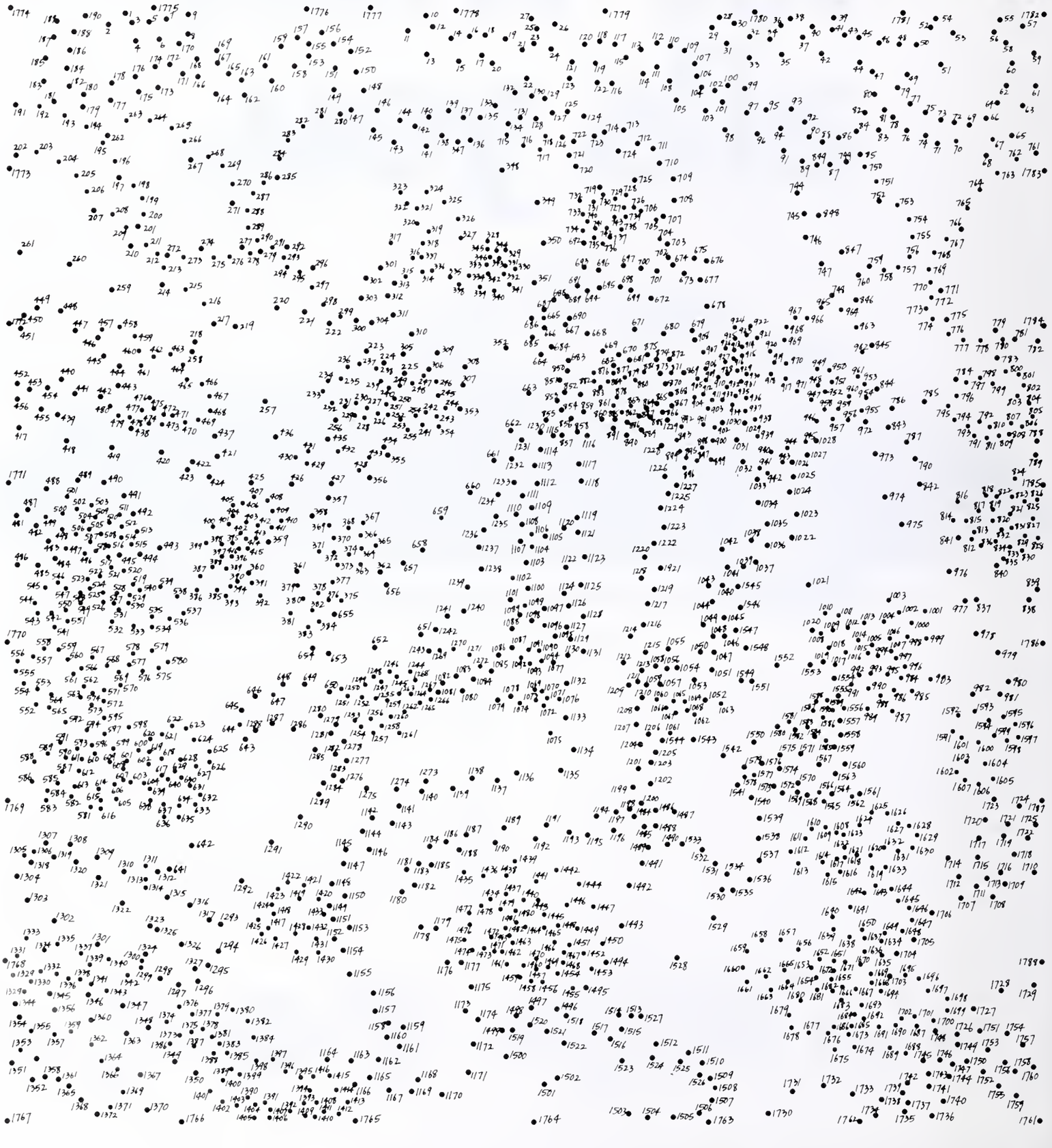


**TABLE 1: Selected Clinical Findings among 46 Patients who presented to Kapiolani Obstetrics and Gynecology Clinic with complaints related to the lower genital tract suggestive of a sexually transmitted disease according to results of the Immunofluorescence Assay (IFA).**

| clinical presentation | Positive Test (NO=9) | | Negative Test (No=37) | | P value |
|---|---|---|---|---|---|
| | no. | % | no | % | |
| Mucopus | 6 | 67 | 11 | 30 | .0373* |
| Friable cervix | 5 | 56 | 23 | 62 | .9835 |
| Mucopus, Friable cervix | 3 | 33 | 6 | 16 | .2441 |
| Discharge | 2 | 22 | 20 | 54 | .1317 |
| Vulvar irritation | 3 | 33 | 2 | 5 | .0086* |
| White Blood Cells on Wet Mount** | 4 | 44 | 22 | 59 | .6291 |
| Mucopus, Friable cervix White Blood Cells on Wet Mount | 3 | 33 | 6 | 16 | .2441 |
| Mucopus, White Blood Cells on Wet Mount | 4 | 44 | 11 | 30 | .5970 |
| Friable cervix, White Blood Cells on Wet Mount | 3 | 33 | 16 | 43 | .5951 |

*P value significant at less than 0.05 level
**More White Blood Cells than Epithelial Cells on a high power Wet Mount slide

tation also were candididates for chlamydial testing; in some cases women were treated based on the initial clinical evaluation. The women who were not treated at the initial visit were notified to return for treatment. If the test was positive, treatment of the partner was urged. A standard form was used to collect information by means of a checklist of signs and symptoms.

The tests provided for our use were rapid antigen detection tests. The first test was the EIA (Chlamydia, Abbot Laboratories, North Chicago, IL), and the second was the IFA (Microtrak, Syva Co, Palo Alto, CA).

The EIA was used beginning on August 10 through December 2, 1987. The test involved a cotton-tipped swab of the endocervix placed in a transport medium with a colorimetric endpoint which is measured by a spectrophotometer. The test can be run with multiple specimens in batches and is 78-98% sensitive, with a specificity of 97-99%[8-13].

The IFA was used December 3, 1987 through February 25, 1988. An endocervical brush specimen was placed on a slide and incubated with fluorescein-conjugated monoclonal antibody to Chlamydia. Each slide was evaluated under a fluorescent microscope individually. The IFA is reported to be 56-88% sensitive and 98-99% specific[8-13].

*Statistical analysis*

Statistical analysis was done on a Macintosh SE computer using the "WormStat" program developed by Dr. George Wolford of Dartmouth College (Small Business Computers of New England, Inc.). The chi-square test was used with 1 degree of freedom comparing the numbers of women who had a given symptom or sign with the outcome of the antigen test. These tests were run for both the EIA and the EFA independently.

Nine criteria were compared in the test results and put through the chi-square test of probability. These were as follows: The presence of mucopus; mucopus with friable cervix; friable cervix; complaint of discharge; vaginal irritation; abundant white blood cells on the wet mount; combination of mucopus; friable cervix and white blood cells on the wet mount; mucopus and white blood cells on the wet mount; and friable cervix and white blood cells on the wet mount.

## Results

Fifty rapid antigen tests were run; however, 46 were actually counted. Four from each group were not run because of problems getting the test to the laboratory in time for processing. Ninety-two percent of the tests were completed.

Eight of the 46 EIA tests were positive (17.4%); 9 of the 46 IFA tests were positive (19.56%). Combining both tests gave an 18.5% prevalence rate for chlamydia in this selected population.

On using the Microtrak test (IFA), when mucopus was present there was a 35% positive test rate as opposed to a 10% positive test rate in the absence of mucopus. This was statistically different with a p value of .0037. When vaginal irritation

*(Continued)* ▶

**TABLE 2: Selected Clinical Findings among 46 Patients who presented to Kapiolani Obstetrics and Gynecology Clinic with complaints related to the lower genital tract suggestive of a sexually transmitted disease according to results of the Immunofluorescence Assay (IFA).**

| clinical presentation | Positive Test (NO=9) | | Negative Test (No=37) | | P value |
|---|---|---|---|---|---|
| | no. | % | no | % | |
| Mucopus | 4 | 50 | 19 | 50 | 1.000 |
| Friable cervix | 6 | 75 | 24 | 63 | .5302 |
| Mucopus, Friable cervix | 4 | 50 | 10 | 26 | 1.000 |
| Discharge | 4 | 50 | 20 | 54 | .5897 |
| Vulvar irritation | 1 | 13 | 2 | 5 | .2756 |
| White Blood Cells on Wet Mount** | 4 | 50 | 22 | 59 | .6852 |
| Mucopus, Friable cervix White Blood Cells on Wet Mount | 2 | 25 | 6 | 16 | 1.000 |
| Mucopus, White Blood Cells on Wet Mount | 2 | 25 | 11 | 30 | .7470 |
| Friable cervix, White Blood Cells on Wet Mount | 3 | 37 | 16 | 43 | .7800 |

**More White Blood Cells than Epithelial Cells on a high power Wet Mount slide

was present, 40% of women had a positive test compared with only 12.5% of women without the complaint. This was significant with a p value of .0086 as shown in Table 1. No statistical significance was found using the chlamydiazyme (EIA) test for any parameter, as shown in Table 2.

## Discussion

Chlamydia trachomatis is a bacterium and is an obligate intracellular organism that uses the host cell's ATP for survival. Infection with Chlamydia strains is transmitted by direct physical contact. There are 15 immunotypes. The most common genital immunotypes are D through K. These are known to cause non-gonococcal urethritis, proctitis, conjunctivitis, subclinical or asymptomatic infections in men and women, as well as cervicitis, pelvic inflammatory disease and pharyngeal carriage in neonates[14]. The sequelae from these infections include infertility due to tubal scarring as well as ectopic pregnancies. The rate of progression from a sub-clinical infection to the above-mentioned syndromes and their sequelae is unknown. The prevalence and incidence of genital chlamydia infections in the general population are unknown at present; however, it is known to be the most common of all sexually transmitted diseases. It is estimated that there are 3 to 5 million cases annually nationwide[1]; epidemiologic studies are hindered by the difficulty in documenting the infection. Cultures may be only 80 to 85% sensitive in the best of hands[14], with a specificity of virtually 100%. The infection at this time is not a reportable disease. The CDC has made the recommendation to have local state and national reporting of cases of laboratory-diagnosed chlamydial infection, non-gonococcal urethritis and pelvic inflammatory disease[1].

The newer, lower-cost, rapid antigen detection methods are suggested for screening purposes, but they have not been used routinely for diagnosis. Sensitivity and specificity, when compared with the cell culture method, in EIA are 67 to 90% and 92 to 97% respectively. The positive predictive value is anywhere from 32 to 87%, depending on the prevalence in the population. The IFA test has a sensitivity of $\geq$ 90% and a specificity of $\geq$ 98% more, with a positive predictive value of 80% in a population with a prevalence of 10%, and 95% in a population with a prevalence of 30%[1, 8-13]. Neither the culture nor the rapid antigen tests have a 100% sensitivity; therefore, both tend to miss many truly infected women and each should not be used alone to rule out an infection. If one gets either a positive culture or a rapid antigen screen, the positive predictive value is high; in our population it approaches 100% and 87% respectively. The negative predictive value, however, is in reality incalculable because of not knowing the true incidence. The false negative rate is at least 20%, even on culture.

The CDC has advised that treatment for Chlamydia infections should be offered to all persons who have been in sexual contact with someone who has a chlamydial-related genital infection, a confirmed gonorrheal infection, or non-gonococcal urethritis (NGU), mucopurulent cervicitis (MPC), pelvic in-

*(Continued on page 339)* ▶




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*References*

1. USP DI Update, September/October 1988, p 120.
2. Br J Clin Pharmacol 1985;20:710-713.
3. Data on file, Lilly Research Laboratories.
4. Scand J Gastroenterol 1987;22(suppl 136):61-70.
5. Am J Gastroenterol 1989;84:769-774.


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**Precautions:** *General* – 1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

2. Dosage should be reduced in patients with moderate to severe renal insufficiency.

3. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

*Laboratory Tests* – False-positive tests for urobilinogen with Multistix® may occur during therapy.

*Drug Interactions* – No interactions have been observed with theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450 enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

*Carcinogenesis, Mutagenesis, Impairment of Fertility* – A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any ot the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a two-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance ot parental animals or their progeny.

*Pregnancy – Teratogenic Effects – Pregnancy Category C* – Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one tetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

*Nursing Mothers* – Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

*Pediatric Use* – Safety and effectiveness in children have not been established.

*Use in Elderly Patients* – Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

**Adverse Reactions:** Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events was due to the drug.

*Hepatic* – Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to three times the upper limit of normal, however, did not significantly differ from that in placebo patients. Hepatitis and jaundice have been reported. All abnormalities were reversible after discontinuation of Axid.

*Cardiovascular* – In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

*CNS* – Rare cases of reversible mental confusion have been reported.

*Endocrine* – Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

*Hematologic* – Fatal thrombocytopenia was reported in a patient treated with nizatidine and another $H_2$-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

*Integumental* – Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

*Hypersensitivity* – As with other $H_2$-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Because cross-sensitivity among this class has been observed, $H_2$-receptor antagonists should not be administered to those with a history of hypersensitivity to these agents. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

*Other* – Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine have been reported.

**Overdosage:** Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance by approximately 84%.

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flammatory disease (PID), or with men under 35 years old with epididimitis[1].

In our study, women who had vaginally related complaints and physical findings of mucopurulent cervicitis, aside from clinical PID, were evaluated for cervical infections with Chlamydia by the rapid tests only.

Our patient selection was not based on the standard risk factors used by Katz in his study of Hawaii's asymptomatic at-risk population. He studied family planning and sexually transmitted disease clinic populations that were clients of the State. The risk factors he used included the following: (1) Age < 25 years, (2) single, (3) low socioeconomic status, (4) more than one partner in the preceding 60 days, (5) past history of a sexually transmitted disease (STD), (6) patient coming in for an STD or STD screen, (7) sexual contact with a partner infected with Chlamydia and (8) sexual contact with a partner infected with gonorrhea[5-7].

Given these risk factors, Katz[4-7] found in the Hawaii State-subsidized family planning clinics a chlamydial prevalence rate of 7.4%, in STD clinics in Hawaii a 13-15% prevalence rate and in our KMCWC outpatient department gynecology clinic a 7.9% prevalance rate. These rates for STD clinics seem to be twice the rates in U.S. mainland family planning clinics[1,5,6,7,14,15]. Hospital-based practices and office-based practices tend to have somewhat lower rates of 4.5%[16]. Our rates compare favorably with Mainland statistics.

Since there was no statistically significant correlation between physical findings and a positive rapid antigen test, our data do not support the previous report by Brunham et al[2] that, given clinical findings or mucopurulent cervicitis or the presence of 10 or more polymorphomuclear leukocytes per 1000 magnification field in the endocervical mucus, there was a 50% chance of having a positive Chlamydia culture and, if no mucopus was seen, a 3.3% chance of having a positive culture. Brunham, however, did gram stains of the mucus.

In our study we found that not having the clinical findings of mucopus, friable or bleeding cervix or abundant WBCs on a wet-mount smear from the vaginal pool, did not significantly decrease the chance of having a positive rapid antigen test. In our population of women felt to be at risk for Chlamydia infection, based on clinical index of suspicion and findings, there was an overall 18.5% positive test rate. If these women had mucopurulence or a friable cervix, 18.7% had a positive test and if these were not present, 17.6% had a positive test. We also found that on the basis of mucopus alone, there were 10 to 40 patients with a positive test (25%), as compared with 7 positive tests in 52 women who did not show mucopus (13.5%). Therefore, we did not find mucopurulent cervicitis to be a good predictor of the presence of chlamydia. More importantly, we did not find its absence to be predictive of non-infection.

Recommendations have been made[3,4] that screening of populations with an incidence of > 2% is a cost-effective measure. In our clinic population, Katz had reported a 7.9% positive rapid antigen test in women who have risk factors but who are asymptomatic. Washngton et al[4] did an analysis of projected costs of treating the consequences of Chlamydia infections in the United States based on local, state and national sources. They predicted $1.4 billion per year in direct and indirect costs and stated that 3/4 of the total cost would be due to the sequelae of the untreated uncomplicated infections. The projected annual cost would exceed $2.18 billion by 1990. They recommended screening programs for these populations with risk factors, therefore, and that symptomatic populations should be treated.

## Conclusion

As our study suggests, supported by our findings, at a minimum, women with vaginal complaints (ie vaginitis or discharge) should be screened for Chlamydia by either the rapid antigen tests or by culture. Women with mucopurulent cervicitis should be treated using a tetracycline or suitable alternative antibiotic as set by CDC guidelines.

Other investigators have found mucopurulent cervicitis to show a 50% positive culture rate. Our data, using the rapid antigen tests, do not support this finding. Women who are in a population at risk with > 2% incidence of chlamydial infection probably should be screened. This seems to be cost effective. In our study population, mucopus is < 50% a predictor of the presence of chlamydial infection; however, the absence of mucopus in a high-risk population does not rule out the presence of Chlamydia. ■

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# The appropriate use of technology (particularly in medical problems of the elderly)

Fred I. Gilbert Jr MD

*Technology, particularly "high" technology, with little solid data, is often blamed for much of our increasing cost of health care. Politics and emotions are poor substitutes for accurate information needed for rational solutions. By targeting the desired outcome and studying the process needed to reach the outcome, we can make better decisions. The methods of designing, conducting and funding the studies needed to answer the difficult questions posed by the use of high technology in the elderly are available. Do we have the wisdom to use them?*

## Introduction

Technology is enormously useful in most fields of medicine but is frequently used for the wrong problem, on the wrong patients, and at the wrong time. I will discuss those issues that contribute to the improper use of technology and the means of resolving them.

Technology: Referring to that branch of knowledge that deals with applied science or engineering, acquired sinister implications during the American Social and Cultural revolution of the 1960s. These implications were shared by words like business and profit. The higher the technology, the more sinister the implications. Low technology like measuring of the pH of the urines of 100,000 people without the results making the slightest difference in diagnosis, treatment or ultimate outcome has up to now not been regarded as inappropriate, whereas performing a magnetic resonance test on anyone is regarded with suspicion because it clearly qualifies as high technology.

I direct my concerns regarding the appropriate use of technology to the elderly, because there are so many of them and because they are the recipients of most of the misuse of technology. (Webster, incidently, defines elderly as "somewhat old, between middle and old age.")

My observations are drawn from 25 years of experience as a practicing general internist, followed by 15 years as a specialist in the field of nuclear medicine. As a general internist, the technology that I used most frequently and continue to use is that wonderful creation called the ballpoint pen; it is followed in importance by the telephone, and at considerable distance by the stethoscope, reflex hammer and EKG machine. The field of nuclear medicine, on the other hand, requires the creation of images from gamma rays detected by very expensive cameras that count data reconstructed by complex computer manipulations.

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## Technology

What is the magnitude of unwise use of technology? From the standpoint of costs, the Office of Technology Assessment found almost one-third of increased spending for Medicare was due to medical technology[1]. The elderly, aged 65 and older, are increasing at a faster rate than any other age group in the population. This will not lessen the problem. This rate of increase in numbers accelerates even more rapidly for those classified as very old. There is only a 24% increase in those less than 65 years of age but a 140% increase in those over 85. The 11% of the population over 65 consumes 50% of the federal health budget, and slightly less than that in terms of physicians' time[2]. Efforts to control the costs, including those of high technology by DRGs or other means, have resulted in closer scrutiny of the treatment of the critically ill. A study regarding medical intensive care carried out in a large Chicago teaching hospital found that the annual DRG payments ran $4.7 million below actual costs[3]. This averaged out to be $10,500 lost per patient discharged. Intensive care units are heavily used by elderly patients. Such units also require highly sophisticated hardware for diagnosis, monitoring and treatment.

George Mills MD, the Medical Director of Maunalani Extended Care Hospital in Honolulu, reviewed care of the elderly and chronically ill at the Annual Meeting of the American Health Care Administrators held in Honolulu in 1984. In outlining goals and policies in the care of the elderly, he observed that if health care providers and government could not resolve their differences, the elderly will suffer from inadequate medical care.

There is no question in my mind as to whether patients can be better served with the new technologies than previously. The answer is yes, they can be. Virtually all of what we call high technology in medicine has emerged since I started to practice in 1946. If that high technology didn't exist, we didn't have to worry about it. We could not do open heart surgery to replace damaged heart valves, or bypass narrowed coronary arteries, because the heart/lung machine that permitted bypassing

the heart and lung hadn't been invented. Neither had coronary angiography, that permitted visualization of the coronary circulation, been performed. There was no artificial kidney to permit renal dialysis, and no renal transplants could be done. In orthopedics, the Smith-Peterson nail that permitted nailing a fractured hip was the big event of the previous decade but no diseased hips had ever been replaced.

The field of nuclear medicine had to await the advent of the gamma cameras and computers, as well as production of the needed radionuclides.

Lasers, which have revolutionized surgery particularly of the eye, were unknown in medicine 40 years ago. In the field of diagnostic imaging, computerized tomography and magnetic resonance hadn't been thought of.

In short, if a physician completed medical school and residency in the late 40s and attempted to practice today without access to the technological advances of the last 40 years, he would find considerable difficulty in dealing with most clinical problems of any magnitude. I have a strong feeling, however, that his patients of yesteryear were more satisfied with his efforts, if not his results, than they are now.

Certainly many, if not most, of the new procedures present the patient with less risk to life and limb and with often measurably better outcomes than those of the past. As an outpatient procedure, we can slip a marvelously designed piece of equipment called a pacemaker beneath the skin of the chest and with a wire attached to the heart, correct life-threatening disturbances of the heart rhythm. With new techniques for studying the brain, we have replaced uncomfortable, risky and costly procedures such as pneumoencephalograms and most cerebral angiograms.

**To what purpose?**

I could go on with examples of the positive benefits versus risks, including risks to the pocketbook as well as to the person, by the new technologies. The problem, however, is not with the new technologies. The problems — and they are multiple — are in different arenas. These include questions such as *who decides* and *under what circumstances* is the technology to be used? *Who pays* for it? *Who* is to *receive it?* These questions in turn are shaped by anther level of questions. What is the cost of *not* using technology? In the past, a physician would examine a patient with a headache after taking a history and then make a decision as to whether or not to proceed with further tests, and usually decided not to. Now, although the physician knows that almost all CAT scans performed for headaches are a waste of time and money and often carry a risk to the patient's health, he also knows that a malpractice suit can result from the failure to carry out such a scan. He, therefore, orders it as additional malpractice insurance.

Patient and family expectations also play no small role in a physician ordering procedures for reasons other than medical indications.

It also should be noted that most physicians, particularly subspecialists, derive a sizable portion of their incomes from technological gadgets rather than from their knowledge, judgment, compassion and understanding. Every natural body orifice permits at least one instrument to be inserted by one or more specialists. If an instrument with a light on one end cannot be inserted down the gullet or windpipe or up the rectum or through the urethra, or into the ear or nose any good "ologist" lacking a natural orifice can always make an unnatural one through which he can introduce a costly instrument. It is not that procedures such as gastroscopy, colonoscopy, and bronchoscopy, with the ability to biopsy suspicious lesions under direct vision, are not without value. With proper indications, they are of great value in diagnosis and management of many problems. On the other hand, they almost certainly are performed too frequently on too many people at too great a cost.

So are most other procedures we physicians perform on inpatients and outpatients.

At this point, I have made some very dogmatic statements and you should be asking where is the hard data to support my contentions. Unfortunately, medicine until recently had not tried to answer questions such as: How many normal "oscopies" or CAT scans or blood chemistries is it reasonable to perform before finding an abnormality that results not only in additional tests or change in diagnosis or management but in a significant difference in outcome. We are so concerned about false-negatives with all of the implications of a missed diagnosis that we overlook the enormous mischief that is produced by the false-positive results of tests and procedures.

Morris Collen MD[4] of the Kaiser Permanente Group in Oakland is one of the few physicians who has carefully kept information for the past 30 years on patients who have undergone multiple tests as a part of multiphasic testing. He found only two tests that made any difference in the outcome as measured by decreased rates in death and disability. These were blood pressure readings and proctoscopy. All of the millions of other procedures being routinely performed on apparently well people throughout the nation appear to have had little influence on improving health. In fact, just the reverse may be true in that many procedures have an adverse effect on health[5].

**How appropriate?**

Why has medicine not made greater efforts to answer basic questions like what is the appropriate use of technology? I am convinced that at least part of the answer to that question is the fear that the answers may be financially harmful to much of the entire system. This includes the manufacturers of the equipment, the marketing and sales staff, as well as the physicians, technicians and hospitals that use the equipment. It would, however, be too cynical to attribute this solely to self-serving inertia on the part of the medical care system. There are very real problems in trying to evaluate the benefits of technology.

Technology, particularly new high technology, changes fast. Often by the time a study is designed, approved, and financed, the technology has changed so much that the study will be irrelevant before it gets underway. For example, soon after a study is designed to determine the cost-effectiveness of a second generation x-ray CT or nuclear scanning unit, a third generation unit enters the arena. This unit is said to have im-

*(Continued on page 344)* ▶



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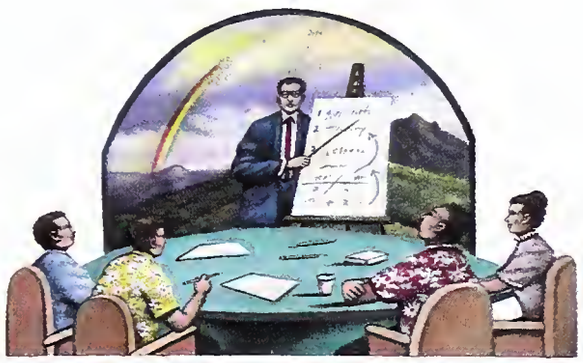
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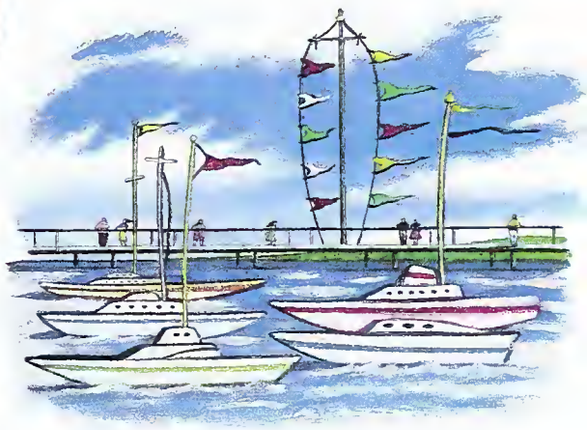
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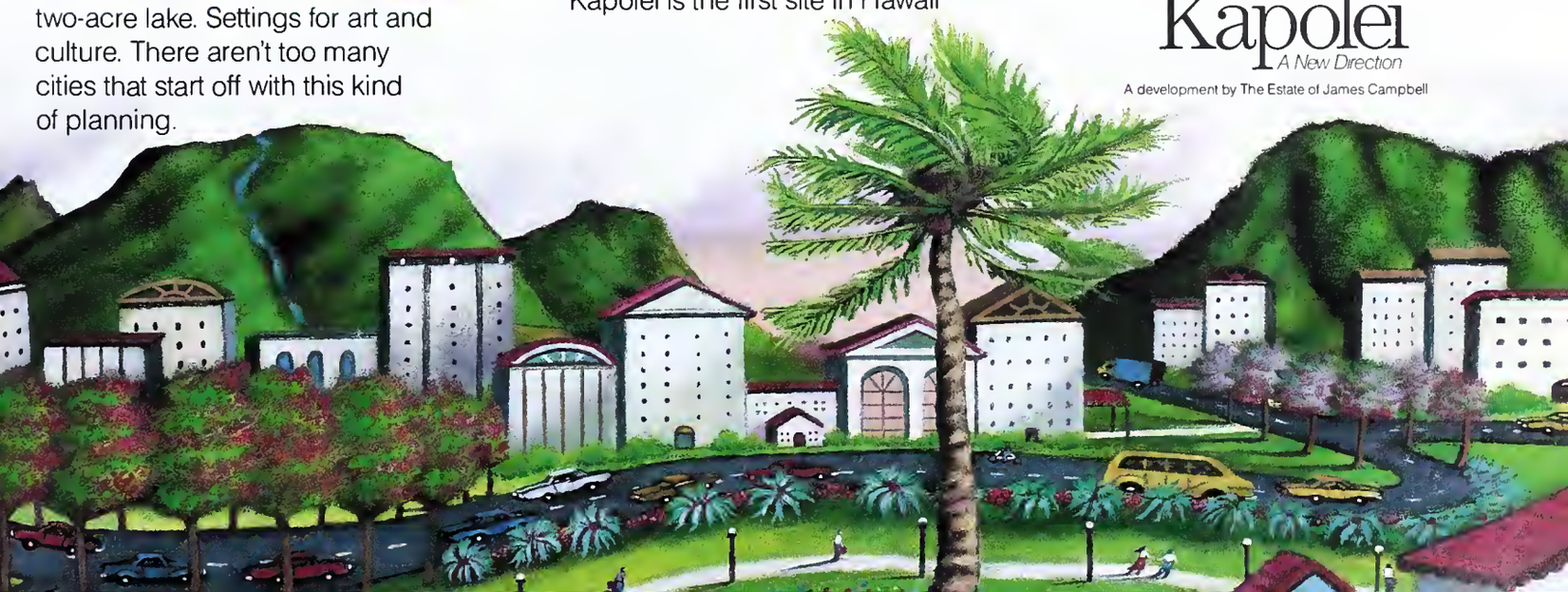


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proved hardware that permits better resolution with reduced radiation risk, faster through-time at less cost. This creates two big problems for the investigators. First, if he still wants to carry out the study, he has to rewrite his proposal and secure new approval by the granting organization. Second, he contributes to the cost of medical care by convincing his hospital to purchase the newer, as yet even less verified, equipment. Even under ideal circumstances, evaluating technology is costly, frustrating, and extremely demanding of time and talent.

### Some answers

With this background of unanswered questions and additional problems, your concerns and mine should be: Is there any way that we can find the appropriate use of technology for the elderly? — or for that matter, for anyone?

We have already noted that it is not the technology but its inappropriate use that is the problem. Some of the solutions that were proposed in the past are:

1. **Rationing** — use of high technology only for those problems where there is a reasonable probability of correcting or modifying a condition that will result in survival for a long enough period of time to justify the cost of the procedure and intervention. This is being used in England for renal dialysis and renal transplant for kidney failure as the model. The English achieved rationing by assigning a fixed budget for end-stage renal disease. If you overspend the hospital or clinic budget, no more dialysis or renal transplants will be done until next year[6]. This appears to be working rather well in England. Most of us, in our land of plenty with presumed unlimited resources, have difficulty in accepting finite medical resources and rationing, but this is changing.
2. **The peer review mechanism,** with both the prospective and retrospective reviews being continued and expanded. Medicine as a profession has always supported the concept of peer review — to have your performance judged by your peers rather than by outsiders. A cardiac surgeon reviews the performance of a cardiac surgeon, an oncologist of an oncologist, and so on. People who live or work in glass houses shouldn't throw stones. If their livelihood requires working in one, they seldom will. On the other hand, if a generalist is enlisted to review the appropriateness of the specialist's decisions in using high diagnostic or therapeutic technology and disagrees with the decisions made, his opinions are apt to be disregarded because of lack of expertise. In my opinion peer review, including the original PSRO or its descendants the PROs, is *not* the proper vehicle to resolve the use of technology issues.
3. **A fixed budget** for management of all health problems of a geographically defined area. This is another form of rationing, across the board rather than for a specific technology or a specific medical problem. It does permit the geographical area to define its own priorities which have merit.
4. **Education** of both physicians and patients as to realistic expectations of the use of technology along with any combinations of other efforts to prevent misuse of technology.

All of the above approaches have some merit, but for the greater part we cannot use them properly because we have never bothered to gather and analyze the information we need to make rational decisions. Renal dialysis for chronic renal failure is properly used as a model, but most other conditions have neither the historical background of efforts to solve the problem nor do most other diseases follow the predictable course of end-stage renal disease. Even here we lack data on the influence of co-existing disease on the ultimate outcome.

Some 30 years ago in the early days of dialysis with limited know-how and many uremic patients, the few dialysis centers in the U.S. established a pattern of review of patients' records by a board. This board had the power to make life or death decisions regarding use of dialysis. The board was usually a small group comprised of a lay person, a physician, a clergyman and one or two other nonprofessionals. The patient's age, basic renal disease, general health, and many other factors were considered before making the hard decision as to whether or not the patient would be given the opportunity to live by being approved for dialysis. Many did not relish the idea of one person or group making this kind of hard decision to ration medical care. Congress, under pressure by the medical profession and the public, solved the problem, as it has solved other problems, by passing a bill making this costly procedure available to all. Soon an increasing number of nephrologists were beating the bushes in their search for uremic patients suitable for dialysis. William Roy MD, co-author of the Roy-Rogers bill that underwrote the cost of renal dialysis with federal funds, now admits that this bill was the worst piece of legislation that he introduced during his time in Congress.

### Conclusion

Here we are then in 1990, in a nation over $3 trillion in debt, finally realizing that our resources are finite; that our elderly are getting older faster than they are dying off; that a nation that seems to be pinning its future existence on service industries is in deep trouble.

Fortunately, there is a solution to the proper use of technology. It has neither been formally proposed nor considered. It is a solution that does not require decisions.

The first is that any technology, new or old, having met safety requirements, must also meet requirements as to efficacy under specific circumstances.

This in turn would necessitate answers to such questions such as: "Does the procedure significantly alter the diagnosis, treatment or outcome of the disease (with major emphasis on the outcome), and at what cost?

This would require research design and methods, data collection and analysis applicable to the technology and medical problem under study. Knowledge, skills and funds would also be needed. The funds would be generated by the technology being investigated. A certain percentage of the fee for the service, say 10%, of the charge for new high technology with poorly documented or undocumented efficacy would be set aside to investigate the technology. As done with other research projects, patients would be informed as to the details, including the reasons for the study. The hospital or clinic using the equipment could participate in the study and recover

part of the costs for such research by being paid for the data obtained — but the research study itself would be designed and carried out under supervision of a disinterested investigator. Similar efforts could also be applied to long-established, low-level technology such as routine blood counts and even urinalysis. This would make it possible to shift disproportionate efforts in cost control to more reasonable efforts to define the proper use of technology, with cost control as an important by-product.

In conclusion, if technology high or low is to be used appropriately in the elderly, we have to stop thinking of increasing the size of the medical monetary pie with an increasing share for everybody including those involved in high technology. This will not happen because the pie is not going to get much bigger.

We must also escape the narrow thinking that is bred by increased specialization with major efforts spent in protection of turf and the kind of mentality that builds bridges over River Kwais.

Medicine is a part of our social structure. Physicians must step out of their narrow roles and assume broader roles as citizens by using their knowledge and experience to solve one of society's major problems — the appropriate use of technology in that large and increasing segment of our population that we call the elderly. We physicians can perceive ourselves as guardians of the past and protectors of special interests, or we can boldly and unselfishly move ahead and lead the way to the solution rather than continue to be part of the problem. ■

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# The 1988-1989 decubitus study

## Can a standardization of treatment be set for the elderly patient with decubiti ulcers Stage III?

Martha Lou Hefley, MD*
Jan Radcliffe, RN**

*On July 1, 1988, a 6-month study began which included 15 ICF and SNF facilities and a census of approximately 1,300 patients. Forms and instructions were sent to each facility prior to the study. Stage II to Stage IV decubiti ulcers were reported on a monthly basis. Information obtained on all decubiti included: Nutritional intake, mental state, mobility, incontinence, contributing diagnoses, decubiti sizes and locations, recurrence of decubiti sites, stages, dates healed, cultures taken and reported, and treatments given. The completed forms were mailed into the Decubitus Study Committee every 3 months being due October 1, 1988 and January 1, 1989. The forms were designed to be as brief as possible yet provide the desired information.*

**The purpose of the study**

1. To determine the prevalence of decubiti ulcers (Stage II, III, IV) and to discover whether standardizations of clinical treatment could be recommended.
2. To offer subsequent recommendations for prevention of decubiti ulcers in extended care facilities.
3. To assimilate the findings as basic material to be presented at a seminar for information to local medical staffs.

At the end of the study the Committee reconvened to analyze the information. The amount of information was so overwhelming that the committee felt it impossible to come to a conclusion as to the purpose of the study. Rather than close the study, however, the Committee decided to establish new goals and to study all Stage II decubiti in order to:

1. Determine if there were any leading diagnoses that were prevalent;
2. compare treatments to see if a standardization of treatment for all Stage III ulcers could be determined.

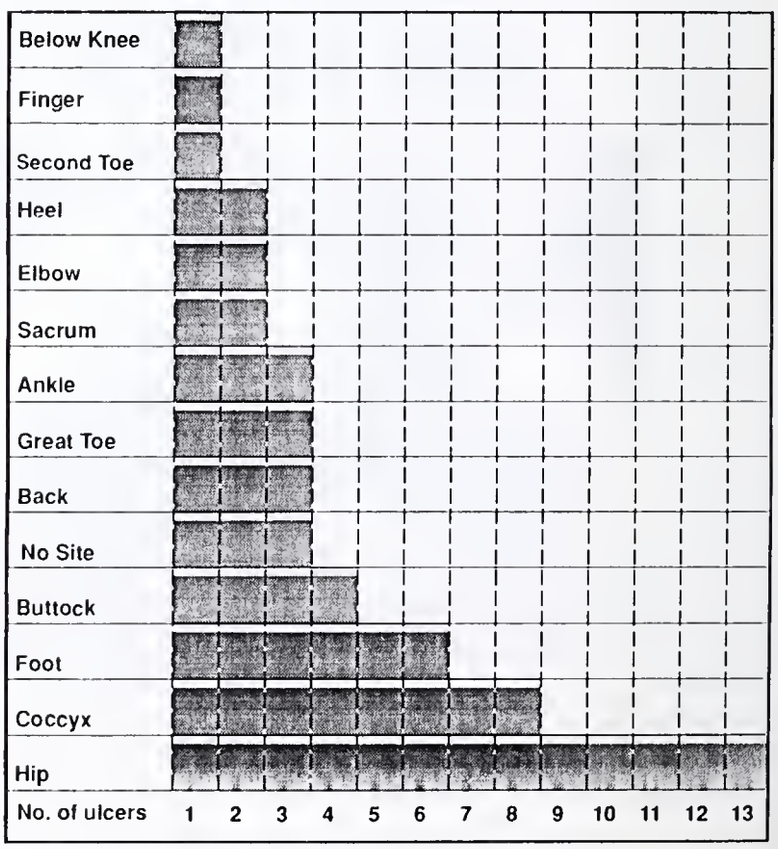
The following graphs (Figures 1-4) illustrate the findings of this study.

**Definitions**

**Variables:** Nursing assessments, frequency of treatment, technique of treatment application, nutritional status, decubiti protection appliances, applications and types.

**Diagnosis:** Vascular: CVA, subdural hematoma, CHF, ane-

**Figure 1:** Site of all Stage III decubiti in study (52)




*(Continued on page 349)* ▶

* Chariman, HCMS Subcommittee on Decubitus Care
** Director of Nursing, Hale Nani




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# MRI CASE OF THE MONTH

## BASILAR ARTERY THROMBOSIS

**Clinical Information:** 68 year-old female with dizziness, difficulty walking and slurred speech.

**Figure A**

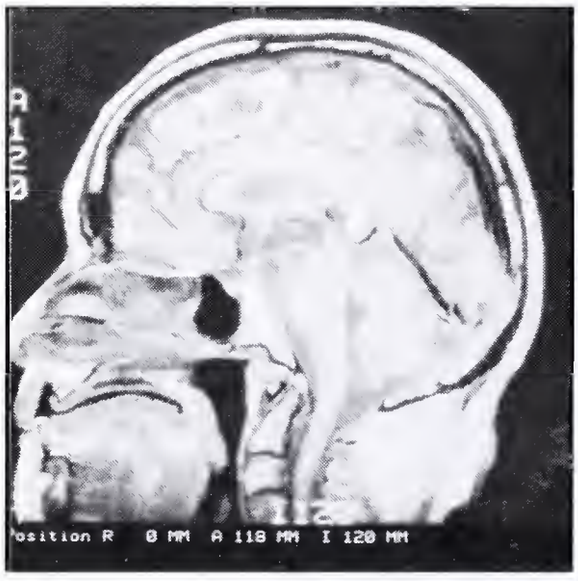
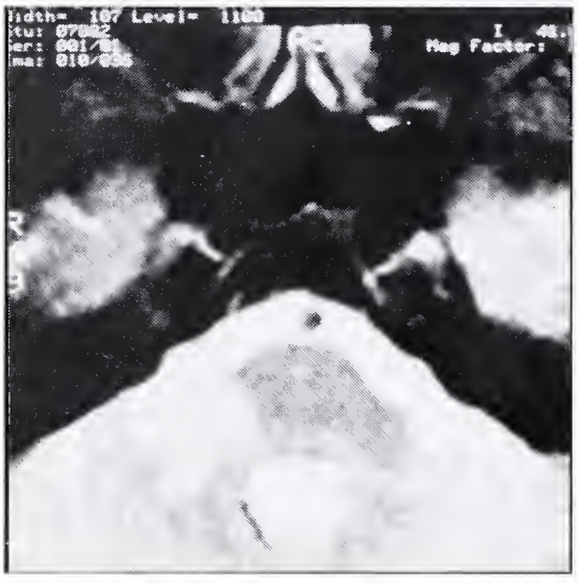



**Figure B**



**Figure C**



### Radiologic Diagnosis:

**Figure 1.** A+B Sagittal projection. There is increased signal in the basilar artery (arrows) where there should be a signal void (black).

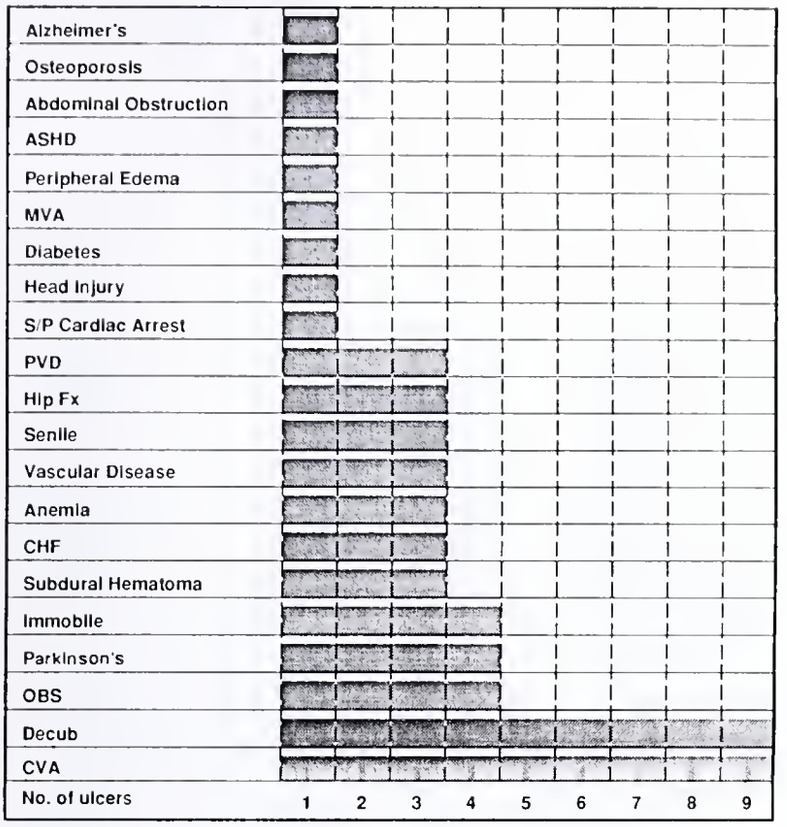
**Figure 2.** Magnified Axial projection. The high singal (white) in the middle cerebellar peduncle represents an infarct.


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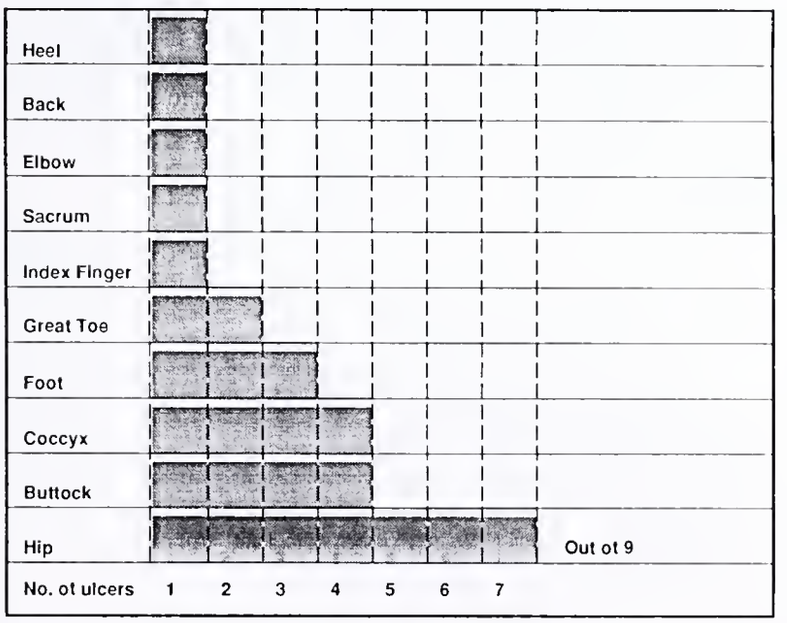
A partnership of Kuakini Medical Development Corp.; Permanente Services of Hawaii, Inc.; Queen's Health Technologies, Inc.; Straub Imaging Services, Inc.; St. Francis Healthcare Technologies, Inc.

**Figure 2:** There were 21 diagnoses in the 44 patients that had 52 decubiti cited in the study.




Due to inadequate information on 12 of the 44 patients with 12 decubiti, the remainder of the study was done on 32 patients with 38 decubiti.

**Figure 3:** Location of the decubiti that improved or healed.




The sizes of the 25 decubiti that improved or healed ranged from 5 cm to 1/2 x 1/4 cm with the average size being 2.24 x 2.23 cm.

mia, vascular disease, PVD, Cardiac Arrest S/P coma, diabetes, MVA, peripheral edema, ASHD. Vague Diagnosis: Decubitus, immobile, senile. Non-Vascular: OBS, Parkinsons, hip fracture, head injury, abdominal obstruction, osteoporosis, Alzheimers.

**Categories:** Category I: Decubiti that improved from Stage III to Stage II in 1 month; Category II: Decubiti that improved from Stage III to Stage II in 2 months; Category III: Decubiti that improved from Stage III to Stage II in 3 months; Category IV: Decubiti that healed and Category V: Decubiti that did not improve or heal.

**Stages:** Stage II: Cracked, blistered or broken skin, shallow to full thickness skin injury; Stage III: Broken skin with subcutaneous tissue involvement; Stage IV: Extensive ulceration, penetration to muscle and/or bone, necrotic tissue.

## Conclusion

Is there a quantum formula that can predict what diagnosis or body area is most prone to decubitus? Is there a magic potion or salve that can improve or heal Stage III decubiti in the elderly?

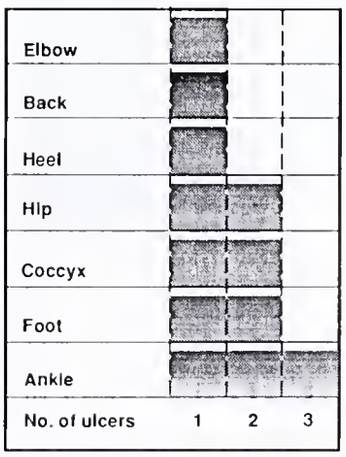
Our study did show that elderly patients that have major diagnoses of vascular disorders are most prone to decubiti. In the past, patients in this category were thought doomed to living with decubiti until their time of demise. This study has shown this not to be the case.

Sixty-five percent of all patients with major diagnoses of vascular diseases with Stage III decubiti, had decubiti that improved or were healed within 3 months of proper wound treatment. Only 28% of the Stage III decubiti of patients with major vascular diagnoses did not improve or heal within 2 to 6 months.

There was no specific area that had a higher rate of failure to heal. Of the 13 hip decubiti cited at the beginning of the study, 4 were dropped from the study due to inadequate information. That means 7 out of 9 hip decubiti improved or healed.

What is the secret potion for healing of Stage III decubiti in elderly patients? We tend to believe there is not any one specific treatment that will aid the healing process. As the figures indicate, what heals one may not heal another. It was noted that when 3 of the decubiti were not improving after 2 months, when the treatment was changed all 3 not only improved but healed

**Figure 4:** Sites that did not improve:




The sizes of the 13 decubiti that did not improve ranged from 0 7 cm to 5 x 4 3 cm with the average size of 3.4 x 2.87 cm.

Number and diagnosis of Stage III decubiti that improved or healed in 3 months:
- 17 vascular diagnosis
- 2 vague diagnosis
- 6 non-vascular diagnosis

Number and diagnosis of Stage III decubiti that did not improve:
- 6 vascular diagnosis
- 6 vague diagnosis
- 1 non-vascular diagnosis

*(Continued)* ▶

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**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon® is indicated as a sympathicolytic and mydriatic. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.[1,2] Also dizziness, headache, skin flushing reported when used orally.[1,3]

**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.[1,3,4] 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to ½ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.[3]

**How Supplied:** Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

**References:**

1. A. Morales et al., New England Journal of Medicine: 1221. November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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## THE 1988-1989 DECUBITUS STUDY

*(Continued from page 349)*

**Figure 5:**

Number of types of treatments used on decubiti that did improve or heal.

| TREATMENT | CATEGORY I | CATEGORY II | CATEGORY III | CATEGORY IV | TOTAL |
|---|---|---|---|---|---|
| CaraKleanse, Carrington Gel, Opsite | 4 | | | | 4 |
| CaraKleanse, Carrington Gel, Dressing | 1 | | | 1 | 2 |
| Carrington Gel, Duoderm | | 1 | | | 1 |
| Heat Lamp, Carrington Gel, Duoderm | | 2 | 1 | | 3 |
| Duoderm | 3 | 1 | 1 | 1 | 6 |
| Betadine, $H_2O_2$, Duoderm | | | 1 | | 1 |
| Betadine, Duoderm | | | | | |
| Betadine, Silvadene | 1 | | | | 1 |
| Betadine & Antibiotics | | | | 2 | 2 |
| Betadine Wet to Dry Dressing | | | | 1 | 1 |
| Betadine Scrub then Wet to Dry Dressing | | | | 1 | 1 |
| Heat Lamp then Betadine | | | | 1 | 1 |
| Boric Acid | 1 | | | 1 | 2 |
| TOTAL | 10 | 4 | 3 | 8 | 25 |

Number of types of treatment used on decubiti that did not improve or heal.

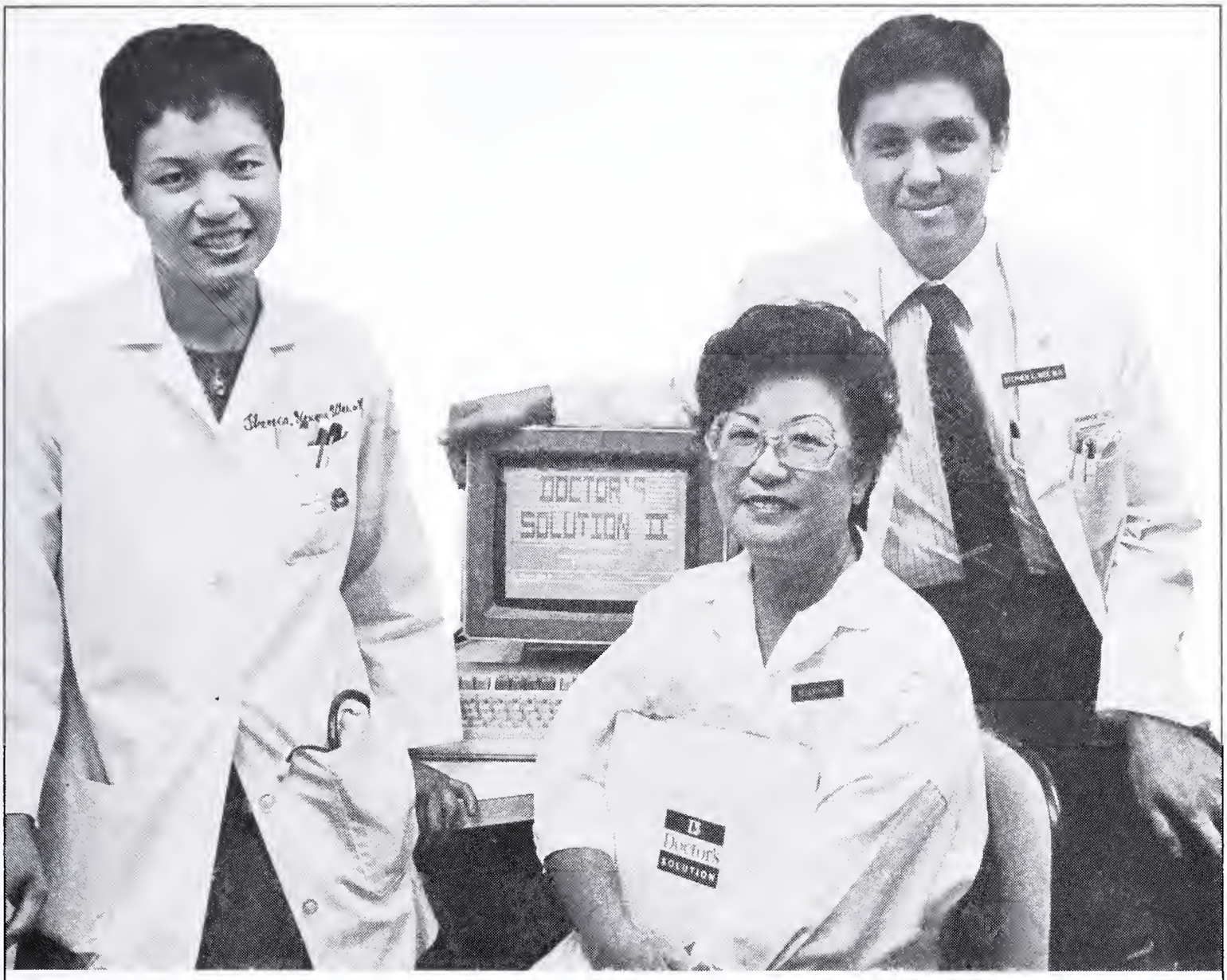
| TREATMENT | CATEGORY V | |
|---|---|---|
| Duoderm | 2 | |
| Boric Acid | 1 | |
| Betadine then Dry Dressing | 4 | |
| Betadine Wet to Dry | 3 | 1 healed when changed to boric acid |
| Betadine & Bacitracin | 1 | |
| Betadine, Duoderm | 1 | 1 healed when changed to boric acid |
| $H_2O_2$, Carrington Gel | 1 | 1 healed when changed to duoderm |
| $H_2O_2$, N/S, Duoderm | 1 | |
| CaraKleanse, Car. Gel & Opsite | 1 | |
| CaraKleansa & Carrington Gel | 1 | |
| TOTAL | 13 | |

within 1 month of the change of treatment. If a decubitus has shown no improvement within a 2-month period, perhaps if the treatment is changed the would would heal, or at least improve.

There was a wide variety of types of treatments used on Stage III decubiti: Carrington products, Duoderm products, Betadine and boric acid, with several variations (as indicated in the figures).

To come to a conclusion of standardization of treatment was impossible due to the wide variety and combinations of treatments, although it does seem noteworthy that 7 of the 13 decubiti that involved Betadine did not improve or heal.

Perhaps future generations of caregivers will come up with the magic salve or potion formula we need to aid the healing process of decubiti in the elderly patient, but for now we need to assess the patient, the variables and the products available; treat the patient according to our assessment, and continue to re-evaluate and reassess the progress of the patient.




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HENRY YOKOYAMA, MD

## Miscellany

The ice fisherman, warmly clad and fully equipped, stepped gingerly onto the ice. . . He walked toward the center of the pond, sat on his stool, cut a neat hole in the ice and dropped his baited hook... A voice boomed from above, "There aren't any fish there." Sure enough, he didn't get a nibble in 15 minutes. . . He moved 20 feet to the right, cut another neat hole and dropped his line and waited in vain. . . Again the same ethereal voice spake: "There aren't any fish." The patient fisherman moved another 20 feet, cut another neat hole, dropped his line and waited for a nibble which didn't come... "There aren't any fish" boomed the voice from on high. . . The fisherman got his dander up and yelled defiantly skyward, "Who the hell do you think you are? God?" "No, " came the reply, "Just the arena announcer."

(As told by Charlotte Johnson,
lab tech at John Aoki's)

The couple in their early 80s had an appointment with their family physician. . . "We hear all these stories about AIDS and we decided to take the test for AIDS. . ." The doctor who had known them for over 50 years tried to reassure the couple . . . "You don't have AIDS . . . You are not exposed to homosexuals, prostitutes or IV drugs . . . Why do you feel you need the test?" "Well Doc, in two weeks we'll be having our annual sex night and we thought we should be careful."

(Another Charlotte Johnson contribution)

## Conference Notes. . .

"Diabetic Nephropathy" by Visiting Prof Wadi Suki on Jul 6 at Mabel Smyth . . .

*General Discussion:* Diabetic nephropathy is more frequent in Type I, but since Type II is more prevalent, the incidence is 50-50 . . . Diabetic nephropathy was more prevalent in the 40s and 50s, but with purified insulin and more rigid control, the incidence has dropped . . . In the 30s, 40 to 50% of diabetics developed nephropathy, but now the incidence is 30%. . . The peak incidence is 16 years after the onset of diabetes. At present, the most common cause of end-stage renal diseases in the U.S. is diabetic nephropathy. . .

A Denmark study of 3,000 diabetics showed that diabetics with no proteinuria had a four-fold risk of nephropathy while diabetics with proteinuria had a 35-times greater risk of nephropathy . . . A Manchester study showed that proteinuria in diabetics had a higher risk of nephropathy and is a/c high triglycerides, high cholesterol, low HDL and hypertension.

Diabetic nephropathy in IDDM: Hallmarks


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include elevated GFR and albuminuria. With clinical proteinuria, mortality is 9.0% when less than 30 microns/min; but 37.5% when 30-140 microns/min. . . The clinical course of diabetic nephropathy is as follows: Elevated GFR after 10 to 15 years results in proteinuria (15 to 25 microns/min); After another 10 years, clinical proteinuria (300 microns/min) results and thereafter a rise of 10 to 15 GFR per year. . .

*Prevention of Diabetic Nephropathy:*

A. Can clinical control prevent nephropathy, eg can continuous infusion of insulin reduce GFR and proteinuria? A Danish experiment showed no change in the progression of nephropathy with continuous insulin infusion. (Therefore earlier intervention may be necessary.)

B. Pharmacology? In diabetic rats, the use of Captopril reduces proteinuria. . . Normotensive diabetics treated with 20 mg Captopril reduces GFR, proteinuria, and the incidence of diabetic nephropathy . . . Nifedipine raises proteinuria while Captopril reduces proteinuria in normotensive diabetics.

***The most important treatment in diabetic nephropathy is to lower the BP especially with Captopril. . . Even in NID DM, Captopril increases insulin sensitivity. . .

Drugs in Hypertensive DM: a. Avoid diuretics and Beta blockers because these drugs reduce insulin sensitivity.

C. Dietary Management? a. Protein in the diet accelerates nephropathy. . . b. Smoking raises the risk of clinical proteinuria 2-1/2 times and the risk of retinopathy 2 times.

SUMMARY: 1. Diabetic nephropathy is a deadly disease which leads to renal failure and atherosclerosis; 2. Early intervention is critical; 3. Use pharmacological means; and 4. Dietary management: Low protein diet; no smoking. . .

## Miscellany

A Frenchman, Englishman and a Portuguese were sentenced to die by guillotine for their crimes... The first one up was the Englishman. . . Given a choice of either facing up or facing down, he declared with typical English pride: "I've always faced up to my problems . . . I'll meet my maker facing up." He was properly positioned on the block ... Swoosh! Down came the guillotine blade and stopped 1 foot short because of mechanical defect... He was reprieved. . .

Next came the Frenchman . . . He chose to die facing down . . . The release lever was disengaged... Swoosh! Again the blade stopped short of the block... The Frenchman was also reprieved. . .

The Portuguese was next . . . "Do you wish to die facing up or facing down. . ." "You can't make me decide until you fix that contraption," he protested.

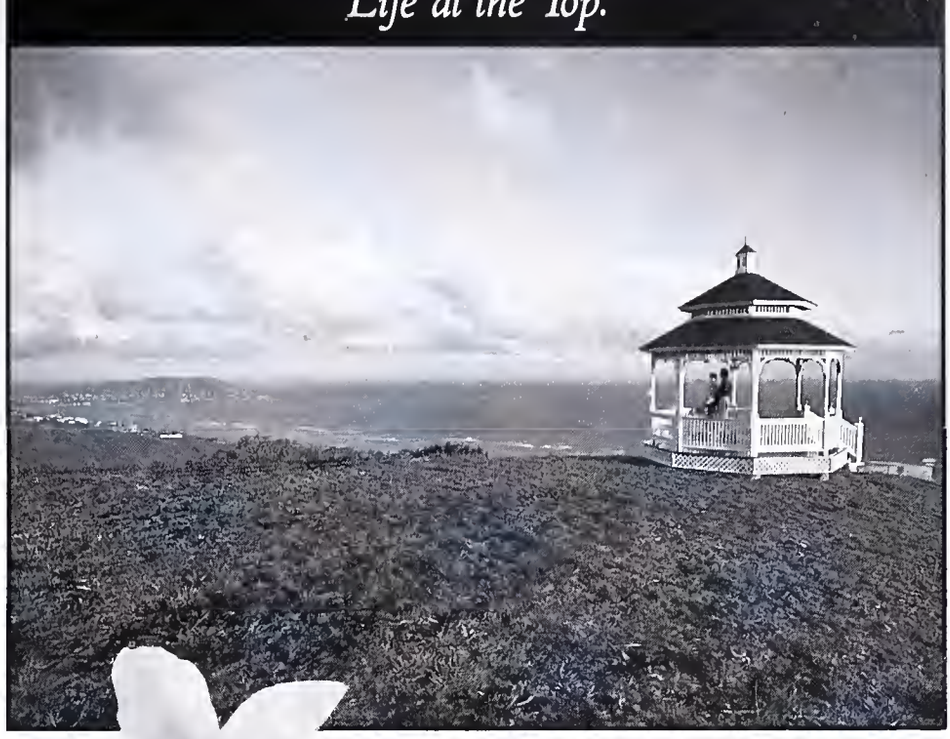
(As told by our favorite humorist,
Harvey Peltz, ICI rep)

## Oncology Dialogue

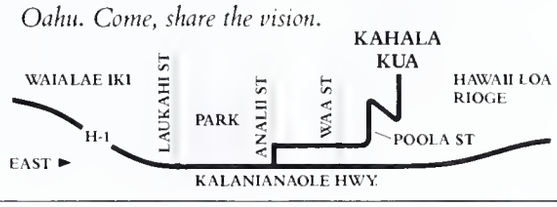
A 48-year-old woman had a routine cholecystectomy in December . . . Postop she was not doing well so lab studies were repeated . . . A slight elevation in liver enzymes was discovered . . . A CT scan showed dilatation of the common duct and an EGD revealed a polypoid ampulla of Vater . . . Three months postop she was explored and the surgeon was surprised to find a huge pancreatic tumor with mets to the retroperitoneum and mesentery ... The retroperitoneal tumor was biopsied and the patient

*(Continued)* ▶


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closed forthwith . . . Radiologist Donn Kumasaki described the latest radiographic studies "as remarkable for the rapid progression of the disease." An ultrasound in Feb showed tubular structures in the liver parenchyma which represented dilated intrahepatic bile ducts. The common duct was markedly enlarged (1.6 $cm^2$) and the entire pancreas was semiluminescent and enlarged . . . The CT scan showed a dilated commonduct and a mass at the head of the pancreas.

Pathologist Larry McCarthy reported that the retroperitoneal tumor biopsy showed fibrous scirrhotic tissue with adenoCa consistent with pancreatic origin.

Moderator Glenn Kokame had asked Kathy to research the KMC statistics on pancreatic Ca. . . The stats were as follows: 1985: 20 cases; 1986: 8 cases; 1987: 19 cases. Since 1981, the age adjusted survival was 1% after 1 year. "Our results are as dismal as the rest of the country. . ." Glenn bemoaned. . .

Knowledgeable Scott Hundahl commented: "We were taught in medical school that tumor grows exponentially . . . This may be true with hematologic tumors, but not with solid tumors which grow by a 'G' curve. . .

The chemotherapists were silent in their despair... Radiotherapist Charley Yamashiro bravely offered: "The best palliation would be if we can introduce something through the jejunostomy tube rather than give external radiation. . ."

## Miscellany

Two ladies from the old neighborhood met downtown . . . Ms. Silverstein: "How's your boy Mosha?" Ms Goldman: "Well, I got good and bad news. . ." "The bad news is that Mosha is gay and has AIDS. . ." Ms Silverstein: "What can be good news after that?" "Well, he's engaged to marry a doctor...."

(A John Howett contribution)

## Tidbits from the columnists

Just Checking Lou Boyd. . .

"Somebody asked Albert Einstein what was the most difficult thing of all to understand, and he said, 'Income tax.' Those who knew him contend he wasn't kidding."

* * *

"Am told that even Pro golfers make only about half of their six-foot putts."

* * *

"Q: Do nudist colony bowlers wear anything at all?

A: Shoes."

* * *

"If you dig straight down in Hawaii — all the way — you come out in Africa's Kenya. Same climate, too. Africa's zebra and giraffe do well in Hawaii's Molokai Ranch Wildlife Park, I'm told. Little wonder."

## Thoughts for the Month

"We learn wisdom from failure much more than success . . . We often discover that what will do by finding out will not do; he who never made a mistake never made a discovery."

Samuel Smiles

## "Laughter — The Magic Medicine

"What is laughter, but a natural expression of man's reaction to the absurdity of the world

*(Continued on page 356)* ▶

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around him . . . Nowadays we know that laughter can be therapeutic, can even lengthen one's life...

And so, we might well improve on that old expression, 'He who laughs last, laughs best,' and add 'and laughs longer.'"

(Extracts from Robins Reader Spring/Summer 1990)

## Life in These Parts

"Speaking of the evolution of languages; From the Hawaii Medical Journal, we learn the Hawaiian term for 'laser therapist' is 'Kauka kukui'" (Don Chapman, June 27)

"A recent issue of Newsweek focused on the danger of tanning. The seven page cover story about the problems in the sun quoted Honolulu dermatologist Norman Goldstein who said, 'There's no such thing as a healthy tan...'" (Eddie Sherman, Midweek, June 27)

Honolulu pediatrician — water safety advocate Wallace Matthews feels that too many Hawaii residents don't know how to swim . . . Wallace and medical researcher Patricia Alpest studied the causes of death of people 3 months to 20-years-old from 1983 through 1987 and found that: Motor vehicles were the No. 1 killer and Drowning No. 2 . . . 67% of the drowning victims were Hawaii residents and only 10% were visitors . . . Males outnumbered females 5 to 1 and most of those who drowned were between 15 and 20 . . . Most of the drownings occurred in spring and summer and between noon and 6 p.m... And most of the drowning occurred at beaches where lifeguards were present. . .

## Long-term tocolytic treatment:

Kapiolani Hospital is unique in the country for its long-term tocolytics program for mothers experiencing premature contractions . . . The program was established by OB-Gyn professor, Thomas Kosasa, following his training at Harvard. Tom says, "It was experimental 10 years ago . . . We are ahead of the country . . . They're afraid of side effects . . . We were unhampered by tradition . . . I think the rest of the country will eventually adopt long-term therapy." The doctors agree that the side effects are minor negatives compared with the benefits of giving birth to a healthy baby. Tom says, "The 2,000 mothers who have undergone the tocolytic treatment in Hawaii have suffered no lasting problems and the drugs are neither narcotic nor habit forming. (Mg $SO_4$ blocks neuromuscular impulses and beta-mimetics inhibit uterine contractions.) The longer the pregnant mother is kept in the antepartum unit (at $900/day) the less time the newborn spends in ICU (at $2,000/day). Tom points out that an infant delivered without the benefit of the antepartum unit can spend 105 days in the hospital at a cost of $210,000. Kapiolani Hospital did a study on savings with the program and found that it was saving $34,000 on a single pregnancy. . .

## Hawaii's law on living wills:

Honolulu attorney Jeff Crabtree says, "You would be better off sitting down with a blank sheet of paper and recording your wishes . . . Hawaii's law is vague and the living will form which local groups have distributed widely, doesn't mean you will be allowed to die with dignity rather than fulfill your worst fear of being kept alive in a vegetative state."

Hawaii, like Missouri, has a living will provision that allows a patient to decide against being kept alive by extraordinary measure, but in its definition of "life sustaining procedure" the Hawaii law specifically says, "except for the provision of fluids, nourishment, medication or other procedures necessary for the patient's comfort or pain relief."

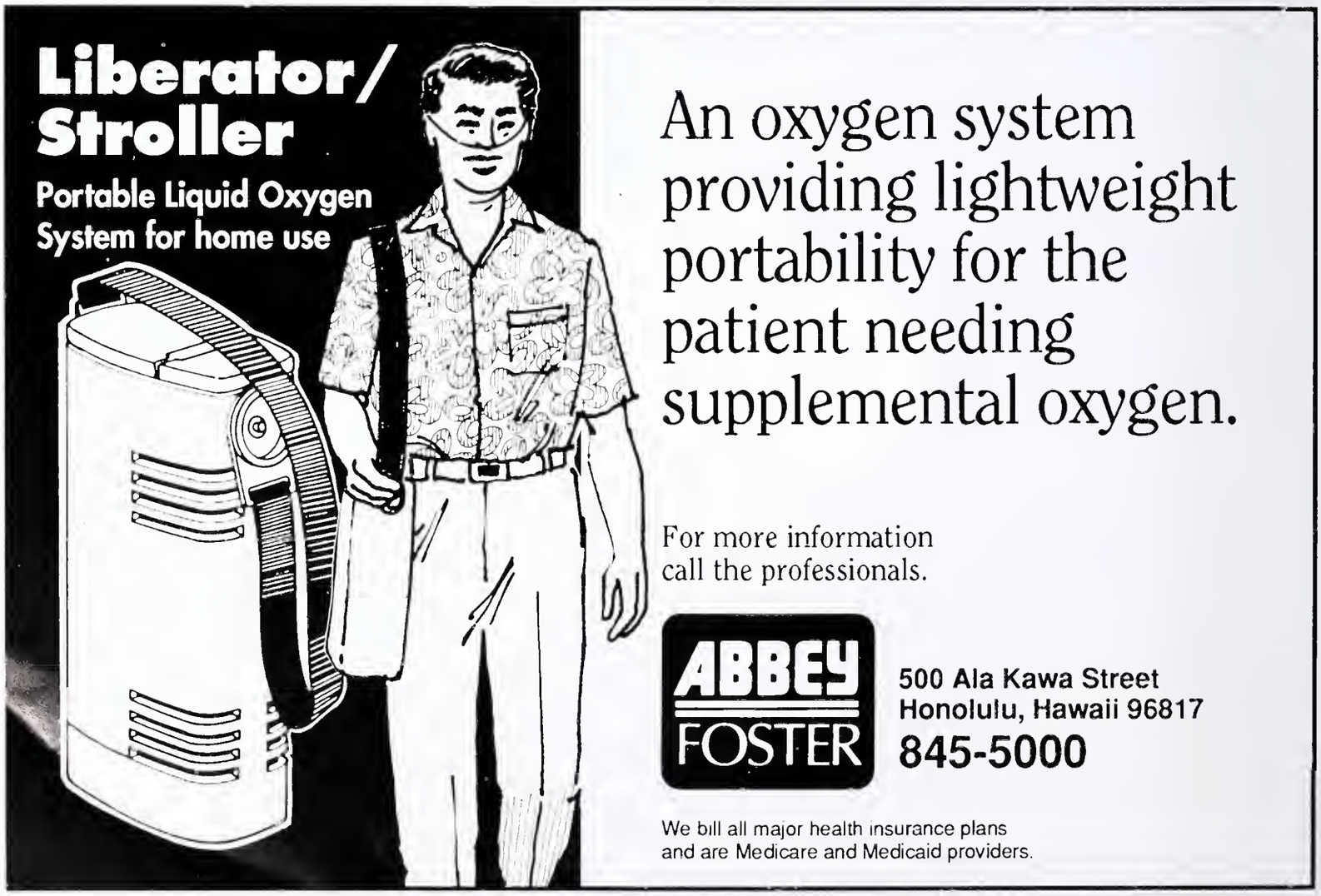
Jeff Crabtree's mother, Shirley Crabtree died May 8, six days after the feeding tube was removed by Family Court Judge Daniel Heely's ruling that "treatment was futile and contrary to Shirley's wishes." Shirley had been comatose 4 years. . .

Stephen Wallach, chairman of the ad hoc HMA committee on permanent vegetative state said, "We believe the U.S. Supreme Court's ruling on the Nancy Cruzan case in Missouri will require the State Legislature to reexamine the issue. . . This year's Legislature decided not to act on the issues pending the outcome of the case. The HMA has been supportive of living wills and the rights of individuals to make medical treatment decisions, including the rights to refuse any treatment, life sustaining mechanisms and artificial feeding."

## Elected, Appointed and Honored. . .

Cardiologist Daniel Canete is president of the new Honolulu Division of the American Heart Association . . . The Honolulu Division covers the geographic area from Hawaii Kai to Salt Lake. . .

The following physician-researchers received funding from the Hawaii affiliate of the AHA for



heart research: Bert Lum, Judson McNamara, Marion Melish, Feng Ge, Robert Kistner and Kenneth Nakamura. . .

Pathology professor John Hardman was appointed the State of Hawaii Autopsy Assistance Network representative by the National Alzheimer's Association. . .

Samuel Gingrich who has been the Emergency Medical Service director for the State of Hawaii on the Big Island since 1978 was appointed director of Emergency Medical Services at Lucy Henriques Medical Center. . .

## Professional Moves

(As gleaned from newspaper ads.)

June: Orthopod Robert Medoff relocated to join fellow orthopods Robert Simmons, Edward Lipp and Robert Nemechek at 30 Aulike Street, Suite 506, Kailua and 46-001 Kamehameha Highway, Suite 402, Kaneohe, Hawaii.

July: Internist Michael Nagoshi joined the Central Medical Clinic at KMP, 321 North Kuakini Street and will assume the practice of Ed Yamada who retired and became medical director at Maluhia Hospital. Internist Francis Buto joined the Pearl City Medical Associates Inc. at Pali Momi Medical Office Building, Suite 500. . .

## Conference Notes

*"Hyperlipidemia"* Lecture by visiting professor John Gwynne at KMC on 8-6-90: *Triad of cholesterol excess:* a. Hypercholesterol*emia;* b. Hypercholerol*mania;* c. Hypercholesterol*media*...

*Rule of thumb:* Dietary and pharmacologic therapy: 1% reduction in total cholesterol reduces cardiovascular events by 2%. . .

*Angiographic data* (FATS TRIAL and LIFESTYLE HEART TRIAL) show evidence that diet, drug therapy, exercise, and stress management prevent CAD and reduce luminal stenosis. . .

*USSR Mortality Data:* LDL has positive prediction value; whereas HDL has negative predictive value . . . Even with low HDL a/c increased CAD deaths, HDL does not have a positive predictive value for coronary events as does LDL . . . eg (Tangier's Disease and Fisheye Disease both have low HDL values, but no increase in CAD).

*Lipoprotein Function:* To transport lipids.

*Lipoprotein subfractions:* LPa is a LDL-like LP; a/c hereditary; a/c plasminogen; has antithrombolytic effect, hence atherogenic; has strong predictive value for hypercholesterolemia and coronary events. . .

*LDL:* direct role in atherosclerosis; a/c fatty streaks formation; small dense LDL-C is highly atherogenic; diabetics have higher LDL-C levels and are more atherogenic.

*HDL:* Has greater predictive value in older population; is antithrombotic; two hypothesis for how HDL works: a. Clears postprandial lipidemia; b. Reverses cholesterol transport . . . HDL-C is lowered by PUFA (polyunsaturated fats), Nicotinic acid and Gemfibrozil. . .

*LDL Levels and Therapy:* a. Diet Therapy indicated for LDL (130-160) a/c 2 risk factors or LDL (higher than 160) and no risk factors. Diet: Reduce total fat; reduce saturated fat; increase monounsaturated fat. Weight reduction (obesity a/c higher LDL-C); Low unsaturated fat diet: ie less red meats, less dairy products; shellfish has low cholesterol; fish oil raises LDL and lowers

*(Continued on page 360)* ▶


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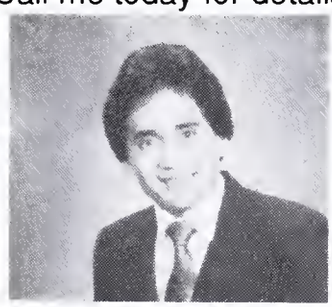


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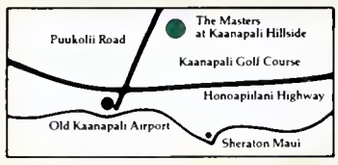
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# Maka O Ka Kauka

RUSSELL R.T. STODD MD

This issue of the Weathervane is devoted to a summary of some of the more pertinent actions taken by the American Medical Association House of Delegates at the June annual meeting in Chicago. The intent is to describe highlights only; additional and detailed information is available from the staff of the Hawaii Medical Association and delegates to the AMA. The House opened with 436 members in attendance and only three absentees.

**'Tis easier to prevent bad habits than to break them.**

The House adopted the Hawaii Medical Association resolution directing the Board of Trustees to evaluate those states in which nurses are allowed to prescribe medications, and the benefits thereof, and report back at the interim meeting in December 1990. We hope thereby to have sufficient data to provide accurate testimony in a reasoned and timely manner when this issue surfaces again before the Hawaii state legislature.

**1. You can't win. 2. You can't break even. 3. You can't even quit the game.**

In a previous newsletter (March '90), it was noted in the *Weathervane* that HCFA's planned cataract surgery PPO was moving ahead despite remonstrations from several ophthalmological sources. The AMA House took unanimous action condemning the plan, as follows: "RESOLVED, That the American Medical Association strongly oppose the implementation of cost-driven limitations of patient services exemplified by Cataract Preferred Provider Organizations." The potential for harm in this misguided scheme was apparent to all.

**No people do so much harm as those going around doing good.**

CLIA, the Clinical Lab Improvement Amendments is a horrendous set of rules rolling off word processors at

Health Care Financing Administration. This law, as proposed, would eliminate all the lab work in physician offices save a few waivered tests (not including CBC and UA). It will structure clinical labs in level 1 and 2, with descriptions of what tests can be performed at each level, how the technicians and lab directors must be certified, and eventually set up a fee schedule. This issue generated heavy testimony in committee where it was stated that many small labs will be confronted with heavy expenses in obtaining and certifying technicians and directors. The overall expense and inconvenience will work a serious hardship on patients. HCFA will accept comment up to August 20 before rules are finalized. The AMA House strongly opposed CLIA, as designed, and urged all members to contact HCFA directly and especially bring pressure through Congressional delegations.

**He came to do good, and he did right well.**

The resignation of James Sammons, MD was acknowledged, and the House affirmed the action of the Board of Trustees in appointing James Todd, MD, a New Jersey surgeon, to be the new Executive Vice President of the AMA. In these very difficult times, Dr. Todd has accepted a truly ponderous load, and he will be under microscopic scrutiny.

**Insurance covers everything except what happens.**

The House adopted a basic benefit health insurance scheme for mandated employer insurance, similar to, but less comprehensive than the one we have had in Hawaii for 15 years. Opposition to the resolution dealt, mainly with areas not included, such as family planning, mental illness, and others.

**All bad precedents began as justifiable measures.**

A new acronym, GPCIs (gypsies) Geographical Practice Cost Indices, is in the lexicon. HCFA will be asked to base reimbursement differentials based on the most current valid and reliable data in calculating accurate GPCIs for use in the Medicare physician payment system. The House was generally of the feeling that rural area physicians are suffering from gross inaccuracies in payment differential.

**Are you for eighty six?**

The House adopted a resolution asking the AMA to support legal availability of RU-486 for appropriate research and, if indicated, clinical practice. To avoid prolonged debate, the resolution carefully avoided any mention of abortion.

**Don't give 'em what they ask for, give 'em what they need.**

In regard to therapeutic substitution, the delegates approved a policy calling on the AMA to oppose the establishment of a system at the federal or state level premised on therapeutic interchangeability of outpatient prescription drugs and formularies. Such a system will inevitably interfere with the ability of the patient's physician to assure that the medication prescribed is dispensed to the patient.

*(Continued)* ▶

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## MAKA O KA KAUKA *(Continued from page 359)*

**Most things get steadily worse.**

The House received a report that summarizes the background of the development of the National Practitioner Data Bank, and describes AMA efforts to communicate information concerning the Data Bank to physicians. The House approved policy asking the AMA (l) to request that the DHHS instruct the NPDB to institute physician notification of adverse data bank entries with verification of receipt by the physician, and (2) to notify its members of the AMA resources to assist individual physicians having difficulties with the Data Bank.

**Basic elements of the patient-physician relationship.**

The House adopted a report from the Council on Ethical and Judicial Affairs that describes six areas of fundamental rights of patients:

1. The patient has the right to receive information from physicians and to discuss the benefits, risks, and costs of appropriate treatment alternatives. The patient also has the right to obtain copies of summaries of their medical records, to have their questions answered, to be advised of any conflict of interest the physician might have, and to receive independent professional opinions.

2. The patient has the right to make decisions regarding health care, and accordingly, patients may accept or refuse any recommended medical treatment.

3. The patient has the right to courtesy, respect, dignity, responsiveness, and timely attention to his or her needs.

4 . The patient has the right to confidentiality. The physician should not reveal confidential information without the consent of the patient, unless provided for by law or by the need to protect the welfare of the individual or the public interest.

5. The patient has the right to continuity of care. The physician may not discontinue treatment of a patient as long as further treatment is medically indicated, without giving the patient sufficient opportunity to make alternative arrangements for care.

6. The patient has a basic right to have available adequate health care. Fulfillment of this right is dependent on society providing resources so that no patient is deprived of necessary care because of an inability to pay for the care.

**No great advance has ever been made in science, politics, or religion without controversy.**

Health Access America—the House filed an information report describing the status of Health Access America, which integrates AMA policies into one cohesive approach to build on the strengths of the U.S. health care system and address its significant weaknesses. Operation FOCUS, the public relations brainchild of the ASCRS was incorporated into this ambitious program.

**And finally . ..**

More than any other time in history, American medicine faces a crossroads. One path leads to despair and utter hopelessness. The other to total extinction. Let us pray we have the wisdom to choose correctly.

Aloha, and keep the faith,
RTS

## NEWS AND NOTES *(Continued from page 357)*

triglycerides;

b. Drug Therapy for LDL levels 190 and higher (after 1 month of diet therapy) or LDL 160 and higher (Men: 1 risk factor; Women: 2 risk factors)

*DRUGS:* A. Bile Acid Resins: lower LDL-C; Cholestyramine and Colestipol; constipates; may be combined with other drugs.

B. Nicotinic Acid: lowers cholesterol and triglycerides; works when nothing else works; 20% of patients cannot tolerate; contraindications: arrythmias and hepatic dysfunction. . .

C. HMG CoA Reductase Inhibitors: Lovastatin: few side effects . . myopathy; liver toxicity with alcohol excess.

D. Probucol: lowers LDL-C and HDL; no effect on triglycerides; side effects: diarrhea for 4-5 days; increases QT interval. . . Antioxidant property: prevents oxidation of LDL to foam cells.

E. Fibric Acid Derivatives (Clofibrate, Gemfibrozil): Increases VLDL conversion to remnants; increases cholesterol excretion; increases VLDL remnants.

COMBINED DRUG THERAPY: Resin with all other drugs . . . eg Resin with Nicotinic A, Resin with Reductase Inhibitors, with Probucol, Gemfibrozil

Individual levels of HDL and LDL more predictive than ratios eg TC/HDL. . .




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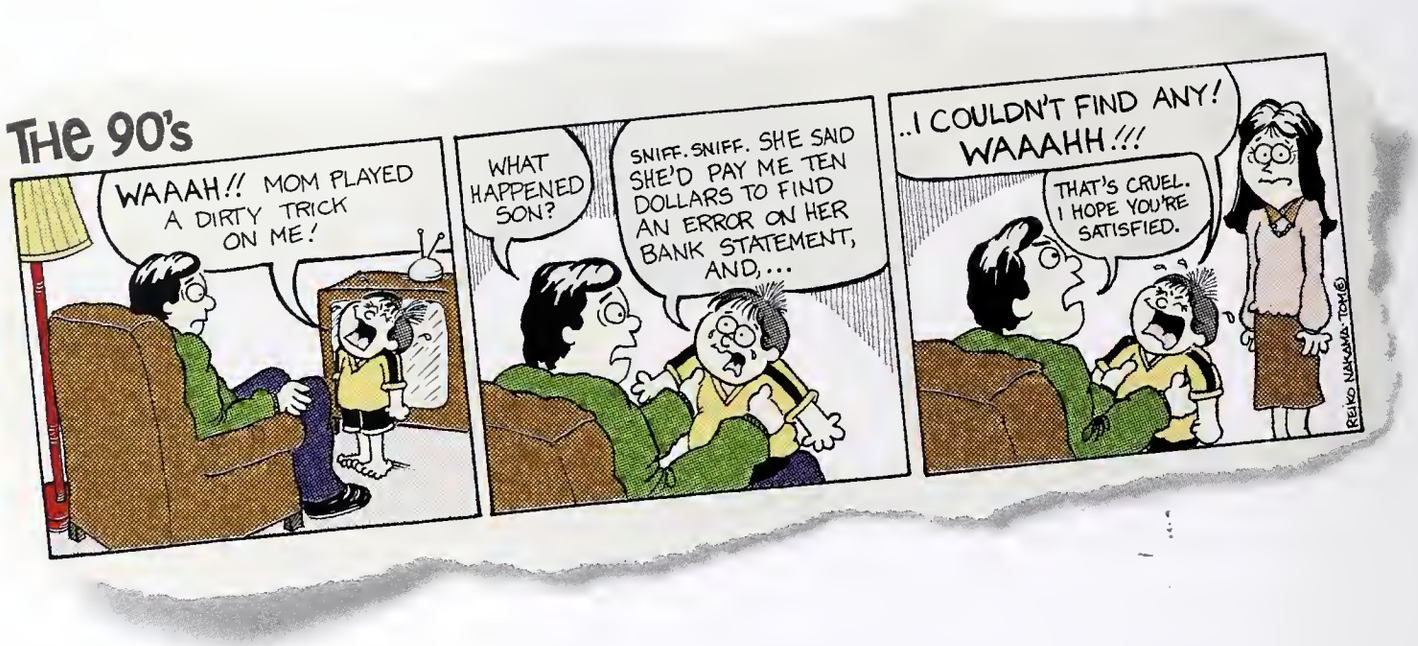
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# Hawaii Medical Journal

## CONTENTS

**EDITORIAL** 371
**The HMA Policy Manual**
J.I. Frederick Reppun MD

**Life Insurance Exams** 371
J.I. Frederick Reppun MD

**COMMITTEE REPORTS** 372

**AFTER THE CRUZAN CASE:** 375
**Uniform Legislation available to help preserve rights of the terminally Ill**
From the Uniform Law Commissioner

**A NEW APPROACH TO SINUS RELIEF** 376
Ronald P. Peroff MD

**HEALING PLACES** 382
Frank L. Tabrah MD

**ACUTE RHABDOMYOLYSIS ASSOCIATED WITH COCAINE INTOXICATION: A CASE REPORT** 386
Michael H. Wholey MBA MD
Eilene Ogasawara JABSM III
Mohamed H. Ramadan MD

**METHAMPHETAMINE IN PSYCHIATRIC EMERGENCIES** 389
Richard R. Szuster MD

**MAKA O KA KAUKA** 393
Russell T. Stodd MD

**OVER THE EDITOR'S DESK** 397

HAWAII MEDICAL ASSOCIATION 1856

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**Warnings:** *Angioedema.* Angioedema of the face, extremities, lips, tongue, glottis, and/or larynx has been reported in patients treated with ACE inhibitors, including VASOTEC. In such cases, VASOTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been confined to the face and lips, the condition has generally resolved without treatment, although antihistamines have been useful in relieving symptoms. Angioedema associated with laryngeal edema may be fatal. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mL to 0.5 mL), should be promptly administered.** (See ADVERSE REACTIONS.)

*Hypotension:* Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Patients with heart failure given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed; caution should be observed when initiating therapy (See DOSAGE AND ADMINISTRATION.) Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion of any etiology. It may be advisable to eliminate the diuretic (except in patients with heart failure), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIONS, *Drug Interactions* and ADVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the first two weeks of treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident. If excessive hypotension occurs, the patient should be placed in the supine position and, if necessary, receive an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further doses of VASOTEC, which usually can be given without difficulty once the blood pressure has stabilized. If symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant diuretic may be necessary.

*Neutropenia/Agranulocytosis:* Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

**Precautions:** *General: Impaired Renal Function.* As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

**Evaluation of patients with hypertension or heart failure should always include assessment of renal function.** (See DOSAGE AND ADMINISTRATION.)

*Hyperkalemia:* Elevated serum potassium (>5.7 mEq/L) was observed in approximately 1% of hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with VASOTEC. (See *Drug Interactions.*)

*Surgery/Anesthesia.* In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

*Information for Patients:*

*Angioedema.* Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

*Hypotension:* Patients should be cautioned to report lightheadedness, especially during the first few days of therapy. If actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

*Hyperkalemia.* Patients should be told not to use salt substitutes containing potassium without consulting their physician.

*Neutropenia.* Patients should be told to report promptly any indication of infection (e.g., sore throat, fever) which may be a sign of neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

*Drug Interactions*

*Hypotension: Patients on Diuretic Therapy:* Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and DOSAGE AND ADMINISTRATION.)

*Agents Causing Renin Release:* The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

*Other Cardiovascular Agents:* VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyldopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence of clinically significant adverse interactions.

*Agents Increasing Serum Potassium.* VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

*Lithium.* Lithium toxicity has been reported in patients receiving lithium concomitantly with drugs which cause elimination of sodium, including ACE inhibitors. A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation of both drugs. It is recommended that serum lithium levels be monitored frequently if enalapril is administered concomitantly with lithium.

*Pregnancy – Category C:* There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enalapril to pregnant hamsters.

There are no adequate and well-controlled studies of enalapril in pregnant women. However, data are available that show enalapril crosses the human placenta. Because the risk of fetal toxicity with the use of ACE inhibitors has not been clearly defined, VASOTEC® (Enalapril Maleate, MSD) should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Postmarketing experience with all ACE inhibitors thus far suggests the following with regard to pregnancy outcome. Inadvertent exposure limited to the first trimester of pregnancy has not been reported to affect fetal outcome adversely. Fetal exposure during the second and third trimesters of pregnancy has been associated with fetal and neonatal morbidity and mortality.

When ACE inhibitors are used during the later stages of pregnancy, there have been reports of hypotension and decreased renal perfusion in the newborn. Oligohydramnios in the mother has also been reported, presumably representing decreased renal function in the fetus. Infants exposed *in utero* to ACE inhibitors should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support of blood pressure and renal perfusion with the administration of fluids and pressors as appropriate. Problems associated with prematurity such as patent ductus arteriosus have occurred in association with maternal use of ACE inhibitors, but it is not clear whether they are related to ACE inhibition, maternal hypertension, or the underlying prematurity.

*Nursing Mothers.* Milk in lactating rats contains radioactivity following administration of $^{14}C$ enalapril maleate. It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be exercised when VASOTEC is given to a nursing mother.

*Pediatric Use:* Safety and effectiveness in children have not been established.

**Adverse Reactions:** VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 2987 patients.

*HYPERTENSION.* The most frequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were: diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

*HEART FAILURE:* The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial infarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each category:

*Cardiovascular:* Cardiac arrest, myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*); pulmonary embolism and infarction; pulmonary edema, rhythm disturbances, atrial fibrillation; palpitation.

*Digestive:* Ileus, pancreatitis, hepatitis (hepatocellular or cholestatic jaundice), melena, anorexia, dyspepsia, constipation, glossitis, stomatitis, dry mouth.

*Musculoskeletal:* Muscle cramps.

*Nervous/Psychiatric.* Depression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

*Urogenital:* Renal failure, oliguria, renal dysfunction (see PRECAUTIONS and DOSAGE AND ADMINISTRATION).

*Respiratory:* Bronchospasm, rhinorrhea, sore throat and hoarseness, asthma, upper respiratory infection.

*Skin.* Exfoliative dermatitis, toxic epidermal necrolysis, Stevens-Johnson syndrome, herpes zoster, erythema multiforme, urticaria, pruritus, alopecia, flushing, hyperhidrosis.

*Special Senses:* Blurred vision, taste alteration, anosmia, tinnitus, conjunctivitis, dry eyes, tearing.

A symptom complex has been reported which may include a positive ANA, an elevated erythrocyte sedimentation rate, arthralgias/arthritis, myalgias, fever, serositis, vasculitis, leukocytosis, eosinophilia, photosensitivity, rash, and other dermatologic manifestations.

*Angioedema:* Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

*Hypotension:* In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause for discontinuation of therapy in 1.9% of patients with heart failure. (See WARNINGS.)

*Clinical Laboratory Test Findings:*

*Serum Electrolytes:* Hyperkalemia (see PRECAUTIONS), hyponatremia.

*Creatinine, Blood Urea Nitrogen:* In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation of VASOTEC and/or other concomitant diuretic therapy, were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients.

*Hemoglobin and Hematocrit.* Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g% and 1.0 vol%, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% of patients discontinued therapy due to anemia.

*Other (Causal Relationship Unknown):* In marketing experience, rare cases of neutropenia, thrombocytopenia, and bone marrow depression have been reported. A few cases of hemolysis have been reported in patients with G6PD deficiency.

*Liver Function Tests.* Elevations of liver enzymes and/or serum bilirubin have occurred.

**Dosage and Administration:** *Hypertension:* In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, if possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) If the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed.

If the diuretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*)

The recommended initial dose in patients not on diuretics is 5 mg once a day. Dosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses. In some patients treated once daily, the antihypertensive effect may diminish toward the end of the dosing interval. In such patients, an increase in dosage or twice-daily administration should be considered. If blood pressure is not controlled with VASOTEC alone, a diuretic may be added.

Concomitant administration of VASOTEC with potassium supplements, potassium salt substitutes, or potassium-sparing diuretics may lead to increases of serum potassium (see PRECAUTIONS).

*Dosage Adjustment in Hypertensive Patients with Renal Impairment.* The usual dose of enalapril is recommended for patients with a creatinine clearance > 30 mL/min (serum creatinine of up to approximately 3 mg/dL). For patients with creatinine clearance ≤ 30 mL/min (serum creatinine ≥ 3 mg/dL), the first dose is 2.5 mg once daily. The dosage may be titrated upward until blood pressure is controlled or to a maximum of 40 mg daily.

*Heart Failure:* VASOTEC is indicated as adjunctive therapy with diuretics and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose of VASOTEC, the patient should be observed under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*) If possible, the dose of the diuretic should be reduced, which may diminish the likelihood of hypotension. The appearance of hypotension after the initial dose of VASOTEC does not preclude subsequent careful dose titration with the drug, following effective management of the hypotension. The usual therapeutic dosing range for the treatment of heart failure is 5 to 20 mg daily given in two divided doses. The maximum daily dose is 40 mg. Once-daily dosing has been effective in a controlled study, but nearly all patients in this study were given 40 mg, the maximum recommended daily dose, and there has been much more experience with twice-daily dosing. In addition, in a placebo-controlled study which demonstrated reduced mortality in patients with severe heart failure (NYHA Class IV), patients were treated with 2.5 to 40 mg per day of VASOTEC, almost always administered in two divided doses. (See CLINICAL PHARMACOLOGY, *Pharmacodynamics and Clinical Effects.*) Dosage may be adjusted depending upon clinical or hemodynamic response. (See WARNINGS.)

*Dosage Adjustment in Patients with Heart Failure and Renal Impairment or Hyponatremia:* In patients with heart failure who have hyponatremia (serum sodium < 130 mEq/L) or with serum creatinine >1.6 mg/dL, therapy should be initiated at 2.5 mg daily under close medical supervision. (See DOSAGE AND ADMINISTRATION, *Heart Failure*, WARNINGS, and PRECAUTIONS, *Drug Interactions.*) The dose may be increased to 2.5 mg b.i.d., then 5 mg b.i.d. and higher as needed, usually at intervals of four days or more, if at the time of dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

*For more detailed information, consult your MSD Representative or see Prescribing Information, Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, PA 19486.* J9VS61R2(820)

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Recently, *Automobile Magazine* assembled five of the world's newest luxury sedans. For four days, the editors evaluated this high-performance quintet on such critical matters as ride, handling, comfort and value.

**AUTOMOBILE**

LUXURY CAR COMPARISON

| | Audi V8 | BMW 535i | Infiniti Q45 | Lexus LS 400 | Mercedes 300E |
|---|---|---|---|---|---|
| ENGINE | 3 | 7 | 11 | 10 | 3 |
| TRANSMISSION | 5 | 4 | 9 | 9 | 1 |
| RIDE | 1 | 5 | 5 | 10 | 5 |
| HANDLING | 9 | 7 | 6 | 8 | 6 |
| NVH (Quietness) | 1 | 6 | 6 | 14 | 6 |
| EXTERIOR | 4 | 9 | 4 | 7 | 4 |
| INTERIOR | 3 | 7 | 5 | 7 | 5 |
| COMFORT | 2 | 5 | 7 | 9 | 5 |
| ENTHUSIAST'S CAR | 9 | 10 | 5 | 7 | 5 |
| BEST VALUE | 3 | 4 | 5 | 9 | 3 |
| **TOTAL** | **40** | **64** | **63** | **90** | **43** |

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# The HMA Policy Manual

We have long urged our Hawaii Medical Association to review the past proceedings of the House of Delegates in order to put together a manual for each member, new and old, that contains established policy statements on the many issues that concern us.

As the current 15th state legislative session ends, it has become more and more apparent that the physicians in organized medicine need to speak with one voice. Not that we need to muzzle our members—after all, we all have our own ideas and treasure our individuality—but it does help, when we lobby in the halls of government for the benefit of our patients and for the practice of medicine at its best, that we not appear to the puzzled makers of our laws as a house divided. We lose credibility thereby.

We do know that Jon Won, our able executive secretary for 25 years, is working on a project to do just this. However, it demands time and tedious attention to a consistent train of thought; Jon has no excess of the former and has to respond to too many interruptions to focus on the latter, unfortunately. The job is not one that can be casually delegated to someone else on the staff, all of whom are equally busy. On second thought however, it might be a good project for someone of our senior members, or past presidents.

As an example: In rummaging through some old personal files, we happened to come across a 1982 statement that seems to reflect the HMA policy on The Living Will (it was promulgated during the presidency of Ann Catts, with the help of Herbert Nakata and his Medical, Ethical, Moral and Legal Concerns Committee). The current Legislature failed to amend the state law; as it still stands, the law stipulates that fluids and nourishment may not be withdrawn from a patient in a permanent vegetative state.

It seems particularly appropriate, therefore, for us to reproduce below the HMA Position Paper on Living Wills:

> The Hawaii Medical Association supports the intent of the Living Will. As physicians, we hold to the principle that an informed, competent patient has the right to accept or refuse treatment. We do feel that legislation is not necessary, inasmuch as a written directive or other documents by the patient, family, or guardian is an acceptable means of conveying the patient's wishes. We are concerned that legislation may interfere with patient-physician relationships. Instead of separate legislation, the HMA would prefer to continue to operate under the following principles: (1) recommend to physicians that they suggest to their patients that they write their own living wills or other documents, (2) encourage the use of and assist in, the distribution of sample forms in doctor's offices, hospitals, and nursing homes, (3) assist in educating physicians and the public in the use and availability of the sample or other documents and (4) support those physicians who defer to the directives or documents of patients, or if given the authority, to families, guardians, or agents.
>
> Approved by HMA Council VIV82

J.I. Frederick Reppun, MD
Editor

# Life Insurance Exams

"A major life insurance company with headquarters on the East Coast wrote me thanking for being an examiner for them over the years. However, from now on they would pay me a fee that was half of my usual and customary for a complete PE (on a stranger, mind you!)

I wrote back: 'Sure, if you'll let me set your premium rates in exchange. However, if you will accept a half-ass job and my stethoscope on his suitcoat to detect a heart murmur in a ten-minute exam, I accept.'

The prompt reply came back: 'Thanks, we'll find another doctor.'

They probably can!"

J. I. Frederick Reppun,
HMJ Editor-in-Chief

## Committee Reports

# HMA Committee Meeting Report July 11, 1990

On July 11 this year the HMA Legislative Committee, chaired by Eugene Matsuyama, met jointly with the HMA Medicare/Medicaid Committee chaired by H.H. Chun at noon at the HMA offices.

Members and others present included: Drs. J. Kim, J. McDonnell, J. Chang, M. Shirasu, A. Kunimoto, C. Kam, S. Wallach, R. Weiner, F. Holschuh, D. Heeney, A. Jacang, W. Young, H.H. Chun, P. DeMare, M. Dung, M.L. Hefley, J. Spangler, E. Bade, R. Goodale, D. Fu, T. Smith, R. Ando, G. Goto, J. Lumeng, W. Dang, N. Winn, and resident physician delegate J. Nakama. Also present were Dr. F. Reppun - Editor HMJ, legal counsel - V. Woo, medical student N. Kaneshiro, and guests Dr. Ramon Sy and Lillian Uy. HMA staff present were: J. Won, N. Jones, J. Asato, P. Kawamoto, J. Estioko, C. Sugita, L. Funai, and M. Lindsey - recording secretary.

The meeting was called to order to hear from Ms. Winifred Odo, the new head of the Health Care Administration Division (HCAD) of the State Department of Human Services (DHS) that administers the Medicaid program; accompanying Ms. Odo was Ms. Nishimi.

Committee members were reminded by the chairs that the Legislature appropriates the monies for the program on an annual basis, depending on Ms. Odo's recommendations. The amount that physicians are paid for their services to the recipients of Medicaid depends on what the Legislature appropriates. Ms. Odo emphasized her appreciation of being able to meet with us physicians in order to be advised as to our problems with the program. She asked for our support in presenting to the legislators her recommendations for increased funding and improved services.

HMA provided a handout from the AMA entitled, "Medicare Program Changes Enacted in the Omnibus Budget Reconciliation Act (OBRA) of 1989" for the period September 1, 1990 to January 1, 1991 together with supporting materials. This material, important to the practice of medicine by all who see patients, is available at the offices of HMA for anyone to pick up and read.

We are warned that if a physician is "decertified" by Medicare — ie may no longer receive remuneration for providing service to a Medicare patient for one or more specified reasons that physician *must* (emphasis ours/Ed) notify the patient of that fact in writing and *must* refer the patient to another physician, again in writing. If the patient, on the other hand, insists on sticking with the physician, a contract must be signed between the two parties stating that no reimbursement from Medicare is to be expected.

Ms. Odo proceeded to inform us that currently reimbursement for services to Medicaid clients will be at the 56% level, but that HMSA is to provide DHS, based on physician profiles in its computer system, with experiential data to be used by DHS to seek a more equitable reimbursement based on the 1989 fees. This in essence is to be a fee schedule. However, she vouchsafed it would be based uniformly per procedure with no differential based on specialty.

She hopes the level of reimbursement at the next legislative session will reach 65% of UCR. At the current level of 56%, only half the practicing physicians in Hawaii are accepting Medicaid patients, she said.

Additionally, DHS will pay the usual, customary and reasonable fees for obstetrics in a pilot project over the next 3 years. There will be a higher reimbursement for medical care to children ages zero to 8 years; more pregnant women will be able to qualify for prenatal care, delivery and newborn care.

Interestingly, on June 15, 1990, the Honolulu Advertiser reported as follows:

> "Since 1965, the government has required hospitals to treat the poor under the Medicaid program and it has promised in law that they would be paid for their services. Increasingly, however, neither the states nor the feds have lived up to that promise.
>
> "On a 5-4 vote, the Supreme Court said that hospitals have a right to get a 'reasonable and adequate' reimbursement and can go to a federal court to seek the money."

And, what about us physicians?

J.I. Frederick Reppun MD, reporter

# MRI CASE OF THE MONTH

## HEMANGIOBLASTOMA

**Clinical History:** 16 year old female with headaches and intermittent dizziness.

**Radiologic Diagnosis:** The ability of MRI to image the posterior fossa define both the nature and extent of the cerebellar hemangioblastoma. The patient is a 16 year old female with 2½ months of headaches and intermittent dizziness. The scan demonstrates:

1

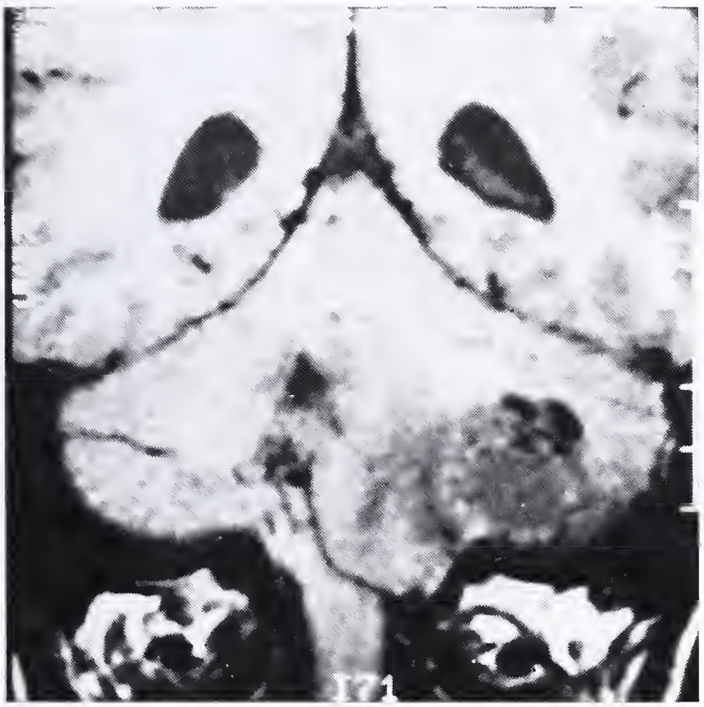


**Figure 1**
T1 coronal tomogram. There is a round mass with an iso-intense rim of tissue with low signal intensity structures (flow-void). The central portion of the mass has low signal intensity as compared to gray and white matter. The fourth ventricle and the cerebellar structures are displaced to the right.

2

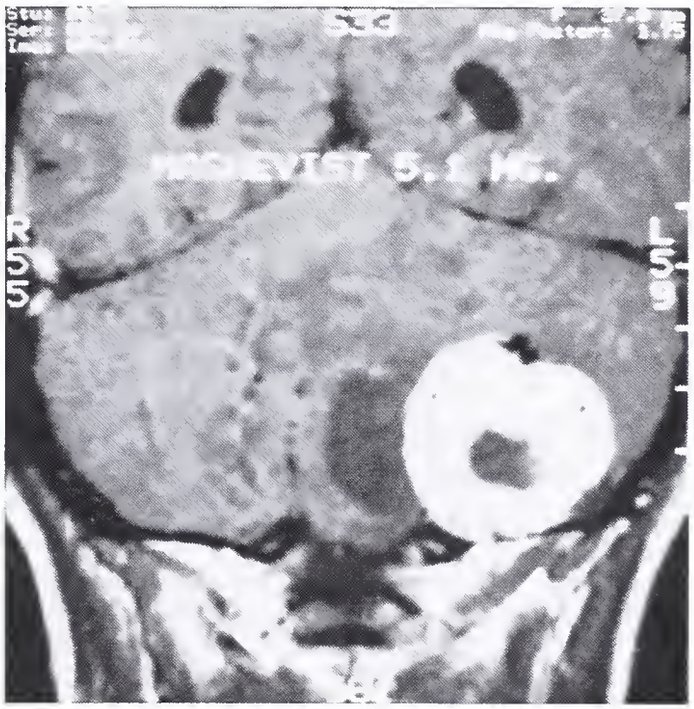


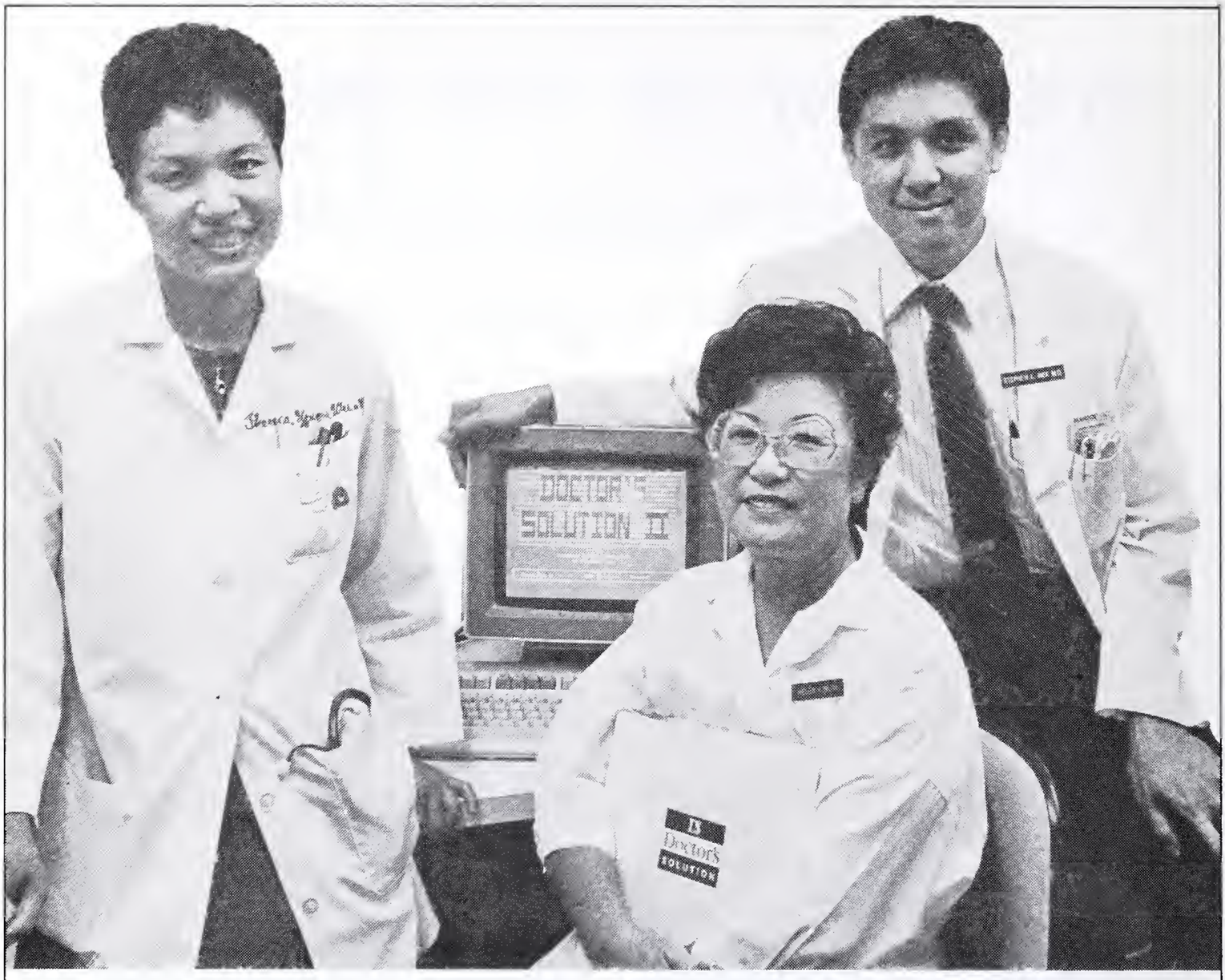
**Figure 2**
T1 contrast enhanced coronal tomogram. After gadolinium-DTPA injection there is contrast enhancement of the rim of the necrotic tumor. Multiple blood vessels are demonstrated in the rind of the tumor. This is virtually diagnostic of a hemangioblastoma.

*These images were produced by MRI Center of the Pacific using their 1.5 Tesla GE Scanner.*


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# After the Cruzan Case:

## Uniform Legislation available to help preserve rights of the terminally ill*

July 9, 1990 — Public discussion in the media following the U.S. Supreme Court case of Nancy Beth Cruzan, the young Missouri woman left in a permanent vegetative state after a 1983 automobile accident, has overlooked an essential point: Namely, that the Supreme Court has left entirely open the option of using durable powers of attorney to designate an agent for making decisions concerning withdrawal of life-sustaining treatment.

In 1983, the report, "Deciding to Forego Life-Sustaining Treatment," from the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research, identified powers of attorney as superior to living wills for making health care decisions. Professional opinion preponderantly supports the President's Commission report. While the trend in the states is moving from living wills to durable powers of attorney, the attention following the Cruzan case has focused almost entirely on living wills.

There is legislation, available to all states, which deals with both living wills and health care powers of attorney. The Uniform Rights of the Terminally Ill Act (URTIA), promulgated by the Uniform Law Commissioners (ULC) in 1985 and revised in 1989, allows any patient to draw up a declaration specifying withholding of life-sustaining medical treatment (including artificial nutrition and hydration). The "living will" of the 1985 act would become operative only when a patient reached the last stages of a terminal condition and was no longer able to participate in decisions about his or her medical care.

The 1989 revision of the Act goes much further: It adds the appointment of a proxy or surrogate as an alternative to the living will provisions. The revision also authorizes a patient's close relatives to consent to withdrawal of life-sustaining treatment in the absence of any form of prior instructions, so long as such decisions do not conflict with known and expressed intentions of the patient.

Missouri, like most states, does not allow family members to make health care decisions for incapacitated patients who have left no prior instructions. The Uniform Rights of the Terminally Ill Act, with its surrogate provisions, would be a start. Justice Sandra Day O'Connor wrote in her concurring opinion of the Cruzan case: "Procedures for surrogate decision-making, which appear to be rapidly gaining acceptance, may be a valuable additional safeguard of the patient's interest in directing his medical care. Moreover, as patients are likely to select a family member as a surrogate, giving effect to a proxy's decisions may also protect the freedom of personal choice in matters of family life."

O'Connor continued: "Today's decision, holding only that the Constitution permits a state to require clear and convincing evidence of Nancy Cruzan's desire to have artificial hydration and nutrition withdrawn, does not preclude a future determination that the Constitution requires the states to implement the decisions of a patient's duly appointed surrogate. Nor does it prevent states from developing other approaches for protecting an incompetent individual's liberty interest in refusing medical treatment. As is evident from the Court's survey of state court decisions, no national consensus has yet emerged on the best solution for this difficult and sensitive problem. Today we decide only that one state's practice does not violate the Constitution; the more challenging task of crafting appropriate procedures for safeguarding incompetents' liberty interests is entrusted to the 'laboratory' of the states."

As decisions about death become an increasingly important aspect of medical treatment, the need for uniformity in this area becomes more apparent. At the moment, there is a distinct lack of uniformity between the states, so that living wills or durable powers of attorney drafted in one state are not necessarily valid in another. Since most Americans do not spend their lives in one state, the lack of uniformity affects many people. The Cruzan decision has set a national standard, yet there can be no national standards for either living wills or durable powers of attorney without a uniform act. The Uniform Rights of the Terminally Ill Act can provide the national standard that is needed.

*The ULC, now in its 99th year, is comprised of more than 300 state-appointed judges, law professors and practicing lawyers in the public and private sector who draft uniform and model state laws and work toward their enactment in the state legislatures.*

* From The Uniform Law Commissioners,
676 N. St. Clair, Chicago, IL 60611

# A New Approach to Sinus Relief

Ronald P. Peroff, MD

*You suffer from "sinus". Medical treatment isn't getting you better, and now you need surgery. It is better that you be treated surgically today rather than as in the past. Five years ago, surgery meant an incision through the eyebrow, with probable numbing of the forehead, in order to relieve the pain of acute frontal sinusitis; or a long eyebrow incision, or shaving the front part of the scalp and pulling down the forehead skin from the skull was the procedure of choice for chronic disease in these sinuses. If the cheek sinuses were chronically diseased, an incision was made through the gums above the upper teeth, often resulting in numbing of the teeth and marked swelling of the cheek.*

**Case Report**

A 33-year-old man developed an upper respiratory tract infection after returning to Hawaii from a trip to the Mainland. He subsequently developed a persistent pain and pressure between his eyes. Examination revealed the right nostril to be partly blocked. He was diagnosed as having an upper respiratory tract infection and acute sinusitis. He was treated with Amoxicillin 500 mg t.i.d. and Novafed-A twice b.i.d. He returned 6 days later suffering from acute pain over the right eyebrow and a history of no relief in any body position including lying down. Sinus x-rays revealed a fluid level in the right frontal sinus (Fig. 1). He was admitted to hospital. He was treated with intravenous penicillin in high doses. When he felt no relief after 48 hours of antibiotics, a CT-scan of the sinuses revealed an air-fluid level in the right frontal sinus, as well as sinusitis involving the ethmoid sinuses on both sides (Fig. 2), and an unusual septal configuration of the frontal sinuses. The findings were consistent with chronic sinusitis of the ethmoids, frontals and maxillary sinuses as well as acute sinusitis of the right frontal sinus. He had experienced no relief from medical therapy; therefore, surgery was scheduled.

Endoscopic sinus surgery was performed with removal of the diseased ethmoid cells through the nostrils (Fig. 3). Pus was evacuated from the right frontal sinus. The surgery went well. The examination in the recovery room revealed no problems and relief from the preoperative frontal sinus pain. The next morning his left eye was ecchymotic and painful, but his vision was good; he exhibited full ocular movements and his pupils were equal and reactive to light. His right frontal sinus pain had disappeared. His post-operative course was prolonged by this complication but no further surgery was required. He was observed and a CT scan of his eye revealed no ominous hematoma of the left orbit. He was discharged and when last seen in the office the pain in his left eye was almost gone and his eye was essentially back to normal. He has fully recovered and is back working full-time.

**Discussion**

Thanks to modern technology, surgery for sinus relief may be performed through the nose.

Sinuses differ from other structures because 1) they are contained within rigid bony walls, 2) clearance of secretions depends on normal ciliary activity, and 3) drainage from the sinus cavity requires an unobstructed orifice. Sinus disease may result from failure of its innate clearance mechanism. Symptoms are related to the rigidity of their bony walls and their associated anatomic structures.

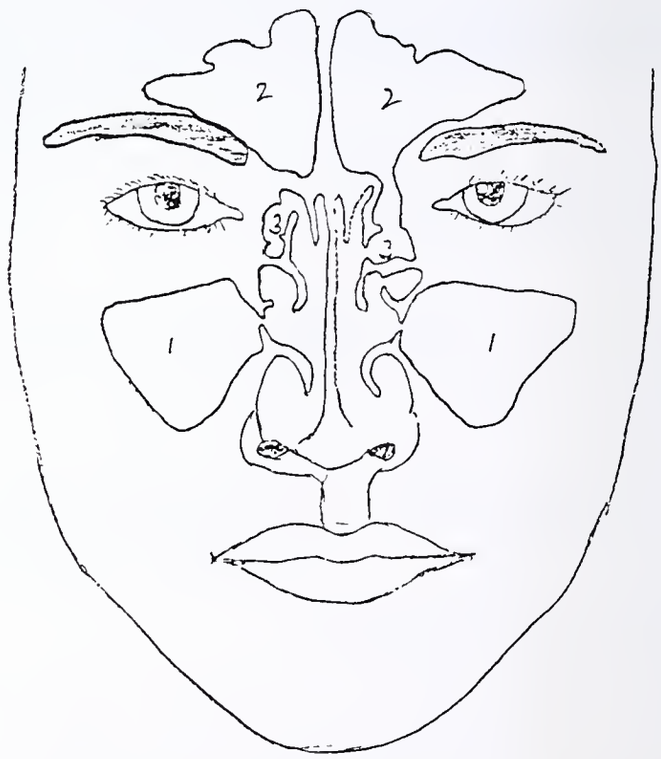



Fig. 1 - Schematic drawing of the sinuses
1. Maxillary sinuses
2. Frontal sinuses
3. Ethmoid sinuses

Ronald P. Peroff, M. D.
Otolaryngologist
The Honolulu Medical Group
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*(Continued)* ▶

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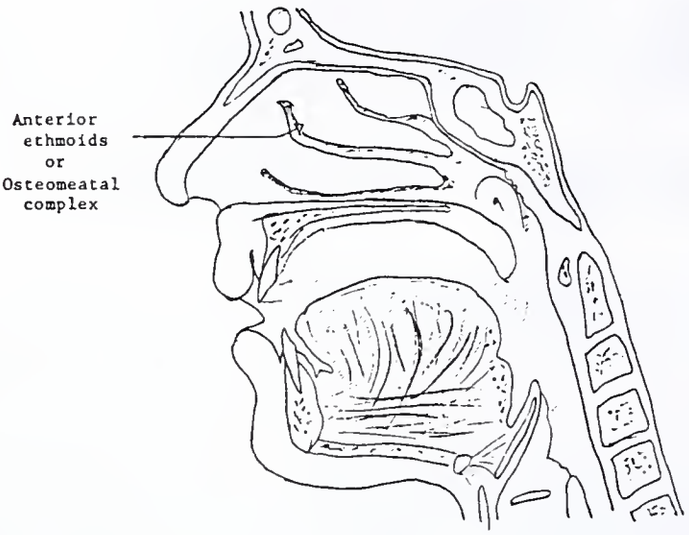



Fig. 2 - Anatomy of the lateral wall of the nose showing area of anterior ethmoids or osteomeatal complex.

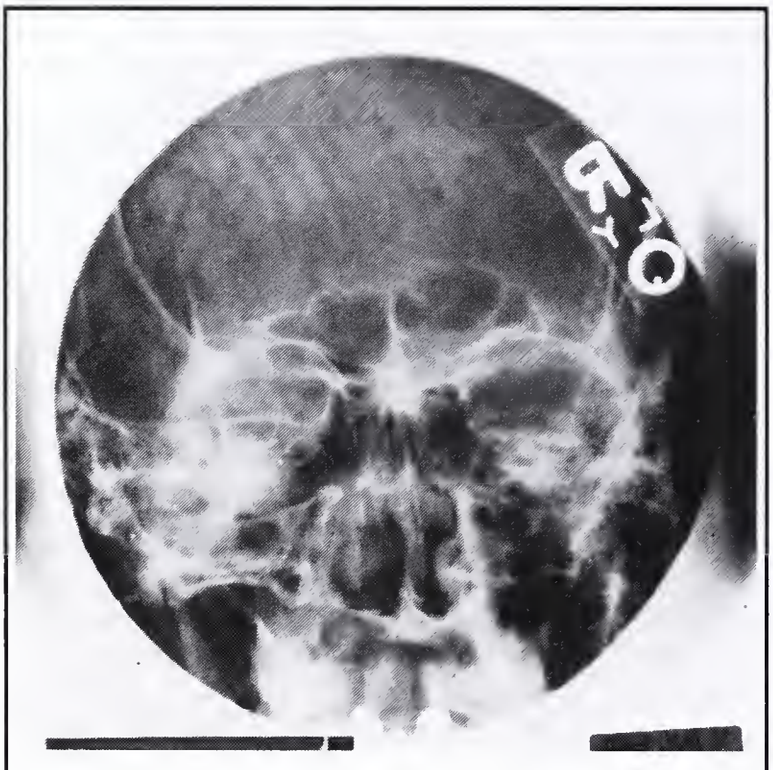


Fig. 3 - Sinus x-ray, Caldwell view, showing fluid level right frontal sinus.

Surgical exposure in sinus surgery is usually limited; the pathologic changes distort the tissues, and thus, the landmarks. New developments in medicine have resulted in the technique of endoscopic sinus surgery. This was pioneered by Dr. Messerklinger in Austria and Dr. Wigand in Germany. The new developments include 1) the compact multiangled telescope that allows direct visualization and examination of the nasal cavity sinuses during the procedure, 2) the acceptance and appreciation of the great work of Messerklinger

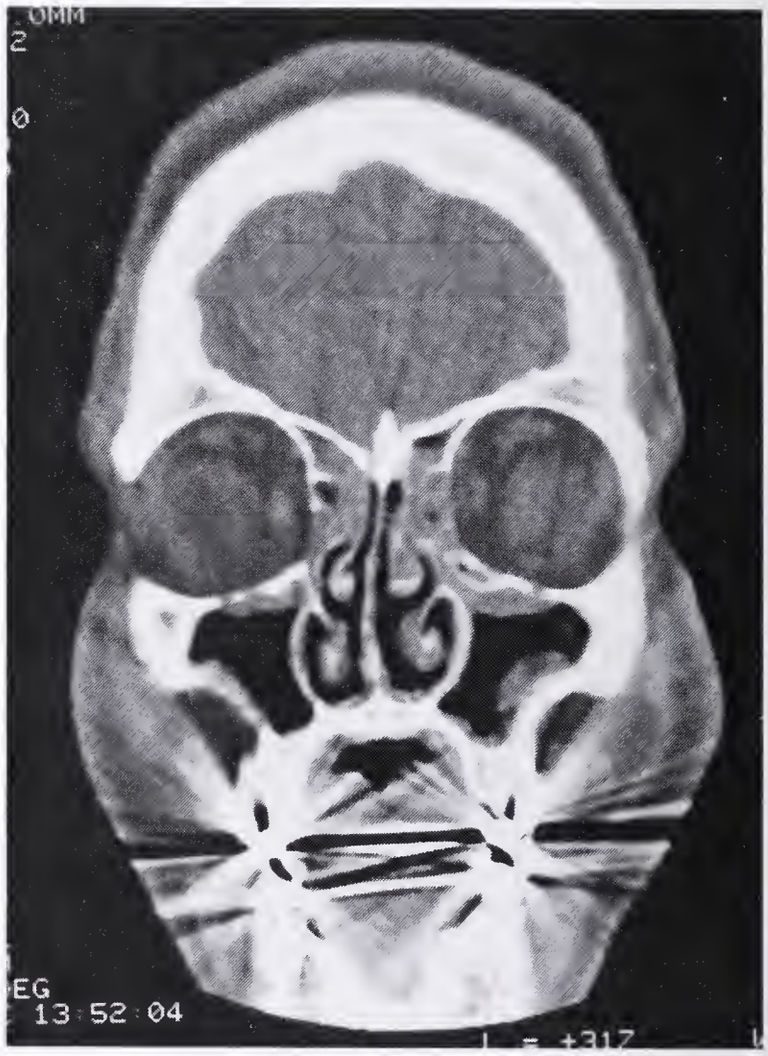



Fig. 4 - Preoperative coronal computed tomographic scan demonstrating opacification of ethmoid cells bilaterally.

who demonstrated that the anterior ethmoids (Fig. 1 and Fig. 2) usually are the key to persistent sinusitis, and 3) the CT-scan (Fig. 4) - which shows clearly what plain x-rays and tomography could not — that the anterior ethmoids are usually diseased when the condition would appear to be only maxillary or frontal sinusitis.

These new developments make it possible to diagnose more accurately and to treat more definitely the sinusitis that does not respond to medical therapy. The techniques of surgery are based on the assumption that the disease of the sinus lining is most likely reversible and will return to normal once adequate drainage has been established, ie an attempt is made to re-establish adequate drainage so the lining of the nose and sinuses can return to normal and resume its proper function. The keys to successful endoscopic sinus surgery are 1) an understanding of underlying mechanisms of sinus disease, and 2) the ability to diagnose the causes accurately. Systematic examination of the nose with the fiberoptic scopes and CT x-rays provide complementary diagnostic information that can allow for the recognition of problems not identified by other means.

Historically the first attempts at nasal and sinus endoscopy were performed as early as 1901 using a modified cystoscope,

*(Continued on page 381)* ▶

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**References:**

**1.** Data on file, G.D. Searle & Co. **2.** 1988 Joint National Committee: The 1988 report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure. *Arch Intern Med* 1988;148:1023-1038.


**BRIEF SUMMARY**

**Contraindications:** Severe LV dysfunction (see *Warnings*), hypotension (systolic pressure < 90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no pacemaker is present), 2nd- or 3rd-degree AV block (if no pacemaker is present), atrial flutter/fibrillation with an accessory bypass tract (eg, WPW or LGL syndromes), hypersensitivity to verapamil.

**Warnings:** Verapamil should be avoided in patients with severe LV dysfunction (eg, ejection fraction < 30%) or moderate to severe symptoms of cardiac failure and in patients with any degree of ventricular dysfunction if they are receiving a beta-blocker. Control milder heart failure with optimum digitalization and/or diuretics before Calan SR is used. Verapamil may occasionally produce hypotension. Elevations of liver enzymes have been reported. Several cases have been demonstrated to be produced by verapamil. Periodic monitoring of liver function in patients on verapamil is prudent. Some patients with paroxysmal and/or chronic atrial flutter/fibrillation and an accessory AV pathway (eg, WPW or LGL syndromes) have developed an increased antegrade conduction across the accessory pathway bypassing the AV node, producing a very rapid ventricular response or ventricular fibrillation after receiving I.V. verapamil (or digitalis). Because of this risk, oral verapamil is contraindicated in such patients. AV block may occur (2nd- and 3rd-degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema and/or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with verapamil.

**Precautions:** Verapamil should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Verapamil may decrease neuromuscular transmission in patients with Duchenne's muscular dystrophy and may prolong recovery from the neuromuscular blocking agent vecuronium. It may be necessary to decrease verapamil dosage in patients with attenuated neuromuscular transmission. Combined therapy with beta-adrenergic blockers and verapamil may result in additive negative effects on heart rate, atrioventricular conduction and/or cardiac contractility; there have been reports of excessive bradycardia and AV block, including complete heart block. The risks of such combined therapy may outweigh the benefits. The combination should be used only with caution and close monitoring. Decreased metoprolol clearance may occur with combined use. Chronic verapamil treatment can increase serum digoxin levels by 50% to 75% during the first week of therapy, which can result in digitalis toxicity. In patients with hepatic cirrhosis, verapamil may reduce total body clearance and extrarenal clearance of digitoxin. The digoxin dose should be reduced when verapamil is given, and the patient carefully monitored. Verapamil will usually have an additive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after verapamil administration. Concomitant use of flecainide and verapamil may have additive effects on myocardial contractility, AV conduction, and repolarization. Combined verapamil and quinidine therapy in patients with hypertrophic cardiomyopathy should be avoided, since significant hypotension may result. Concomitant use of lithium and verapamil may result in a lowering of serum lithium levels or increased sensitivity to lithium. Patients receiving both drugs must be monitored carefully. Verapamil may increase carbamazepine concentrations during combined use. Rifampin may reduce verapamil bioavailability. Phenobarbital may increase verapamil clearance. Verapamil may increase serum levels of cyclosporin. Concomitant use of inhalation anesthetics and calcium antagonists needs careful titration to avoid excessive cardiovascular depression. Verapamil may potentiate the activity of neuromuscular blocking agents (curare-like and depolarizing); dosage reduction may be required. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. Pregnancy Category C. There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. Verapamil is excreted in breast milk; therefore, nursing should be discontinued during verapamil use.

**Adverse Reactions:** Constipation (7.3%), dizziness (3.3%), nausea (2.7%), hypotension (2.5%), headache (2.2%), edema (1.9%), CHF, pulmonary edema (1.8%), fatigue (1.7%), dyspnea (1.4%), bradycardia: HR < 50/min (1.4%), AV block: total 1°,2°,3° (1.2%), 2° and 3° (0.8%), rash (1.2%), flushing (0.6%), elevated liver enzymes. The following reactions, reported in 1.0% or less of patients, occurred under conditions where a causal relationship is uncertain: angina pectoris, atrioventricular dissociation, chest pain, claudication, myocardial infarction, palpitations, purpura (vasculitis), syncope, diarrhea, dry mouth, gastrointestinal distress, gingival hyperplasia, ecchymosis or bruising, cerebrovascular accident, confusion, equilibrium disorders, insomnia, muscle cramps, paresthesia, psychotic symptoms, shakiness, somnolence, arthralgia and rash, exanthema, hair loss, hyperkeratosis, macules, sweating, urticaria, Stevens-Johnson syndrome, erythema multiforme, blurred vision, gynecomastia, increased urination, spotty menstruation, impotence.

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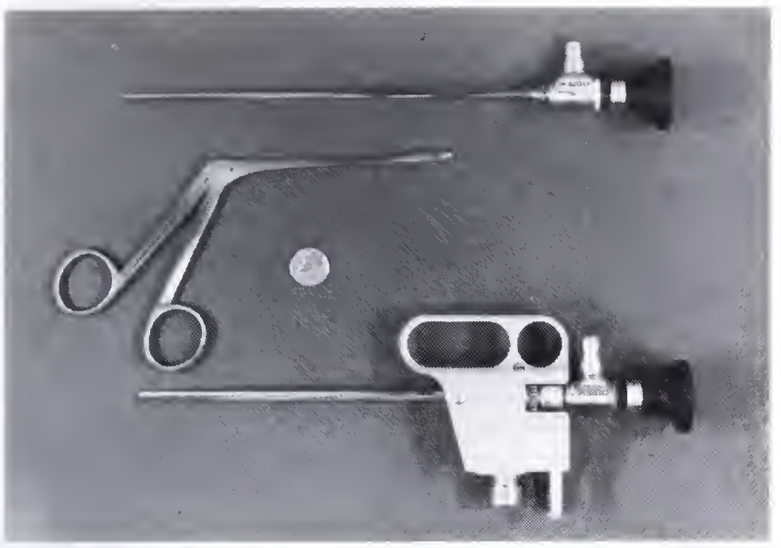


Fig. 5 - Endoscopic sinus surgery instruments
Top: Wolf lens
Middle: Forceps
Bottom: Wolf lens holder

a light source used to examine the urinary bladder. However, it was not until 1978 that the first systematic detailed work documenting endoscopic findings was published in English by Dr. Messerklinger. He studied mucociliary clearance of the sinuses using endoscopy in patients, and time-lapse photography in fresh autopsy specimens. He noted that whenever two mucosal layers came in contact with each other, failure of mucociliary clearance occurred, causing pooling of secretions, and therefore, creating increased potential for infection. Areas of mucosal contact were most likely to occur in the narrow mucosal-lined channels of the middle meatus and ethmoid air system. With more than 20 years experience with patients with chronic and recurring sinus infections, Messerklinger identified ventilatory defects in these areas. Areas of persistent mucosal contact occurred either as a result of mucosal inflammation and swelling following an infection such as a head cold or as a result of an anatomic malformation. Interruption of the normal mucociliary clearance caused persistence of local inflammation and affected the drainage of the frontal and maxillary sinuses leading to the potential for repeat infections. In the majority of cases, infection in the ethmoids spread to the maxillary and frontal sinuses.

The area of the anterior end of the middle turbinate and groove bears the brunt of inspiratory airflow. This area is the primary site for deposition of bacterial and allergenic particles filtered by the nose, and therefore, is important in inflammatory disease of the nose and paranasal sinuses. Even severe mucosal disease in the maxillary and frontal sinuses usually undergoes reversal when ventilation and mucociliary clearance is restored and ethmoid disease is eradicated.

The keystone of successful endoscopic sinus surgery is l) the ability accurately to diagnose even relatively minor changes in the osteomeatal complex (Fig. 4) that interfere with mucociliary clearance of the frontal and maxillary sinuses. Nasal endoscopy provides the ability to assess this area for evidence of localized disease or for anatomic defects that interfere with ventilation and mucociliary clearance. CT-scanning (Fig. 2) is used to reveal mucosal changes deeper in the osteomeatal complex that are not visible endoscopically and to identify the extent of disease. Infection generally begins there and persistent infection in that locus is usually the reason for failure of medical therapy directed at any of the other sinuses. These are not new concepts; they were suggested as early as 1966, but the technology to confirm them was not available then.

The technique involves removal of disease from the key areas of the anterior ethmoid and middle meatus using the sinuscope. Such surgery is less extensive than in the past. Previously, the tendency was to correct the secondary pathologic changes while overlooking the underlying problem in the osteomeatal complex. The principle of the technique is limited resection of inflammatory or anatomic defects that interfere with normal mucociliary clearance and result in localized persistent inflammation. The approach has been used successfully in chronic and recurrent acute sinusitis, fungal sinus disease and drainage of frontal sinus mucoceles. It can also be used as an alternative to frontal sinusotomy or external surgery through the eyebrow in acute frontal sinusitis and for the drainage of periorbital abscess.

Who are the patients that might benefit from endoscopic sinus surgery? Patients with acute or chronic sinusitis unresponsive to appropriate antibiotic or allergic management are considered potential candidates for surgical intervention. A crooked septum obscuring adequate surgical access to the involved area needs to be corrected prior to endoscopic surgery. The surgery is carried out in the hospital under a general anesthetic. The area and extent of surgical resection varies and is dependent on the pathology encountered. The advantages of using this technique are improved illumination and a greater depth of field. Also, disease can be removed from recesses that could not be addressed by the old approach.

Postoperatively, the chief problem is the formation of adhesions and scarring, creating the possibility of a recurrent interruption of ventilator and mucociliary clearance. ■

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# Healing places

Frank L. Tabrah, MD*

Have you ever wondered how hospitals began? The following delightful description of how to build, equip and staff a hospital, written by Charaka, a second-century Hindu physician, takes us to the heart of the ancient world—by then well along in the provision of centralized facilities for the ill and injured.

"In the first place, a mansion must be constructed under the supervision of an engineer well-conversant with the science of building mansions and houses. It should be spacious and roomy. The element of strength should not be wanting in it. No part of it should be exposed to strong winds or breezes. One portion at least should be open to the currents of wind ....

"It should not be exposed to smoke, or to the Sun, or dust, or injurious sound and touch and taste and form and scent. It should be furnished with staircases, with pestles and mortars, privies,. . . and cook rooms.

"After this, there should be secured a body of attendants of good behavior, distinguished for their purity and cleanliness of habits, (imbued) with kindness, skilled in giving every kind of patient service . . . competent to cook food and curries, clever in bathing or washing a patient . . . well-skilled in making or cleaning beds, patient and skillful in waiting upon one that is ailing, and never unwilling to do any act that they may be commanded to do.

"A cow should also be kept, yielding copious milk. She must be of a quiet disposition, healthy, having all her calves living.... So also should be kept little vessels or cups, larger vessels for washing the hands and face, water-vessels, small jars or pitchers, dishes, cauldrons or pans, mats, deer-skins and sheep-skins, rags, cloths made of cotton and wool, strings and cords, beds, and seats, vessels full of water and flatter vessels for holding spittle and evacuations, all placed ready for use . . . good beds placed upon bedsteads and overlaid with white sheets and containing pillows, for use when sleep is needed, and diverse kinds of instruments, domestic and surgical."

* Straub Clinic
888 5. King St. Honolulu, HI 96813
Emeritus Prof. of Community Health and Research Association
Dept. of Physiology, University of Hawaii School of Medicine

Herodotus, writing about 450 B.C., describes the known concentration of patients (3500 B.C.):

"In the earliest Babylonian times, they bring out their sick to the market place, for they have no physicians; then those who pass by the sick person confer with him about the disease, to discover whether they have themselves been afflicted with the same disease as the sick person, or have seen others so afflicted; thus the passers-by confer with him, and advise him to have recourse to the same treatment as that by which they escaped a similar disease, or as they have known to cure others. And they are not allowed to pass by a sick person in silence, without seeking the nature of his distemper."

By 2250 B.C., this simple beginning had developed into a complex health care system with fee schedules, licensure. malpractice provisions and rigid specialization.

Contemporary Egyptian and Hindu practices of 2250 B.C. were astonishingly adept. The Susruta describes 121 Indian surgical instruments including saws, lancets, scalpels, catheters, syringes, bougies, scissors, needles, hooks and a rectal speculum. These had proper handles and joints, and were protected in flannel-lined boxes. Major surgical procedures were done primarily in temple areas.

The Chinese, by 2250 B.C., had developed their intricate materia medica—what contact they had with India and Egypt is a fascinating question. Garrison writes that the Chinese ideogram for physician contains, like the Egyptian hieroglyphic, an arrow or lancet in the upper half, and a drug or bleeding-glass in the lower.

Later contact, at least with India, was certain. About A.D. 399, Fa-hsien, a Chinese pilgrim, braved the "Headache Mountains" (altitude sickness in the Himalayas?) and their eternal snows to write:

"As far as the eye can reach, the route is marked out by bleached bones of men who have perished in the attempt . . . scarcely one person in a thousand survives."

When he finally reached India he marveled at
"the hospitals within the cities, to which the poor of all countries, the destitute, the cripples and the diseased, may repair for shelter. Physicians inspect their diseases, and according to their cases, order them food and drink, decoctions . . . everything in tact that may contribute to

their ease. When cured they depart to their own convenience."

Utilization review lay far in the future.

One of the famed, organized, physician guilds of ancient Greece, the Asclepiads, (400 B.C.-A.D. 400) developed an enviable system of temple sanitaria, commonly situated on wooded hills or mountain sides, near mineral springs. These centers, gems of architectural grace and therapeutic excellence laid much of the groundwork of Western medicine through the later influence of Rome, Byzantium, Arabia and the Renaissance. The birth of scientific thought, preservation of the even older ethical tenets and ideals of humanism were truly nurtured in these wooded glades.

Many hospitals of the classic world, following the examples of these superb Greek models, provided total care with prolonged rest, medicine, surgery and psychotherapy. In the climes more frigid than that of sunny Greece, the stalwart, practical Romans built and staffed their famous centrally heated "valetudinaria"

Throughout the Roman world, from Scotland to Palestine, there are remains of superbly built, wooden or stone complexes, true hospitals constructed in the first or second centuries, with support buildings, granaries, furnaces with ducts under the floors, piped water and sewer systems, all a part of the provincial military structure of the Empire. However, as with us, there were incredible gaps in services, for within the glittering metropolis of Rome, such centers did not exist. This led Tacitus to comment that:

> "After a battle, wealthy homes opened their doors to the wounded, and Rome was a sorry sight, when citizens in the aftermath had to care for the maimed."

Famous hospitals of the early middle ages included those of Damascus and Cairo, founded by Mohammedans in 1160 and 1276 respectively. At Damascus, treatment and drugs were given free of charge for three centuries. The great Al-Mansur hospital at Cairo (1283) was a huge quandrangular structure with fountains playing in the four courtyards, separate wards for certain diseases, wards for women and convalescents, lecture rooms, an extensive library, outpatient clinics, diet kitchens, an orphan asylum and a chapel. It had a very large staff and developed a large income, disbursing a suitable sum to each convalescent at discharge, so that he might not have to go to work at once. The various Caliphates throughout Islamic states provided equally well for their people, rich and poor alike.

Large, complex European hospitals founded in the middle ages are still known to us today. Their inception, as Christianity flourished, was the outcome of widespread monasticism and its concentration of intellectual resources, as well as a reaction to the destructive catastrophies that afflicted classic civilizations. Supported by church and charity, monks and nuns tended the sick; often, no one else could or would, especially during the many European outbreaks of plague.

In all these beneficent examples of comprehensive health care, who paid the costs? Aside from major ecclesiastical funding, hospital and health care arrangements throughout history often enjoyed princely largess by government. In addition, physicians and hospitals shamelessly engaged in cost-shifting, wherein the very rich paid handsomely and the poor nothing, a losing practice that even today keeps the occasional hospital a little longer out of the red.

Clearly, more mature societies, ancient and modern, have found ways to pay for the work of their physicians and hospitals. This has been largely a cultural norm, an accepted responsibility, well-accepted throughout the middle ages, the renaissance, and into our own times until it crumbled in this country, along with our economic strength, educational excellence and national self-image.

Hospital productivity, quality and accessibility are being relentlessly undermined by our DRG fiasco, by skimpy Medicaid payments and Draconian contract discounts. Since cost shifting is no longer feasible and medical facilities are obliged by law to expend significant chunks of revenue on government-mandated tasks, even highly efficient entities are going bankrupt. A recent article by Davis and Felder (JAMA. 1990; 263: 73-76) laments a projected increase to 17% of the GNP for health care by the year 2000; they propose a 11% cap instead. No one can deny that the money might be more efficiently spent, but what twisted logic is it that insists a cap must be applied to successful medical technologies for which there is an exponentially growing demand?

With today's health care financing nearly as "sick" as the patients it purports to serve, is there not a message for us in the experience of ancient and not so ancient health system? There is indeed, and it is no surprise....

Health care costs money. The present inadequate funding of the nation's health systems is irresponsible. Ancient governments and societies largely met their responsibilities, congruent with the times. But where are we, at a time when health services are considered to be a fundamental right? Are we decent about funding our health resources that have been carefully built up by dedicated people through many decades of scientific and social progress? We are not. Shortsighted penury in hospital earnings in the face of enormous increases in service demands is the direct route to catastrophe. Punitive levels of inadequate reimbursement will not solve the problem of health care costs. We must redefine what we expect from the health care world, facing the scientific, ethical, and dollar dilemma of what is clinically useful, who should have it, and who will pay for it.

If we continue to starve the system while we wait for answers, the hospitals, clinics, and our hard-won system of care will become an endangered species. Would the Egyptians have sold Pali Momi, Hawaii's newest hospital, before the paint was dry? ■

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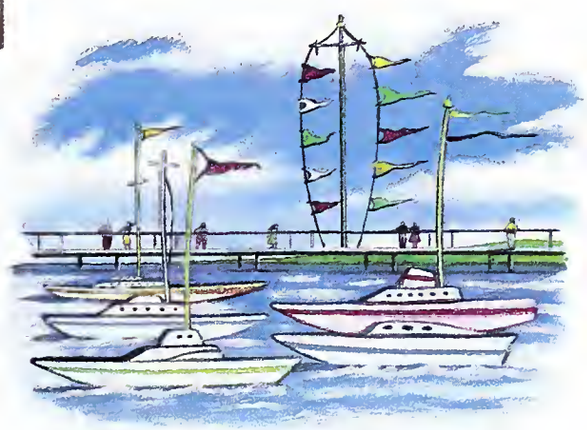
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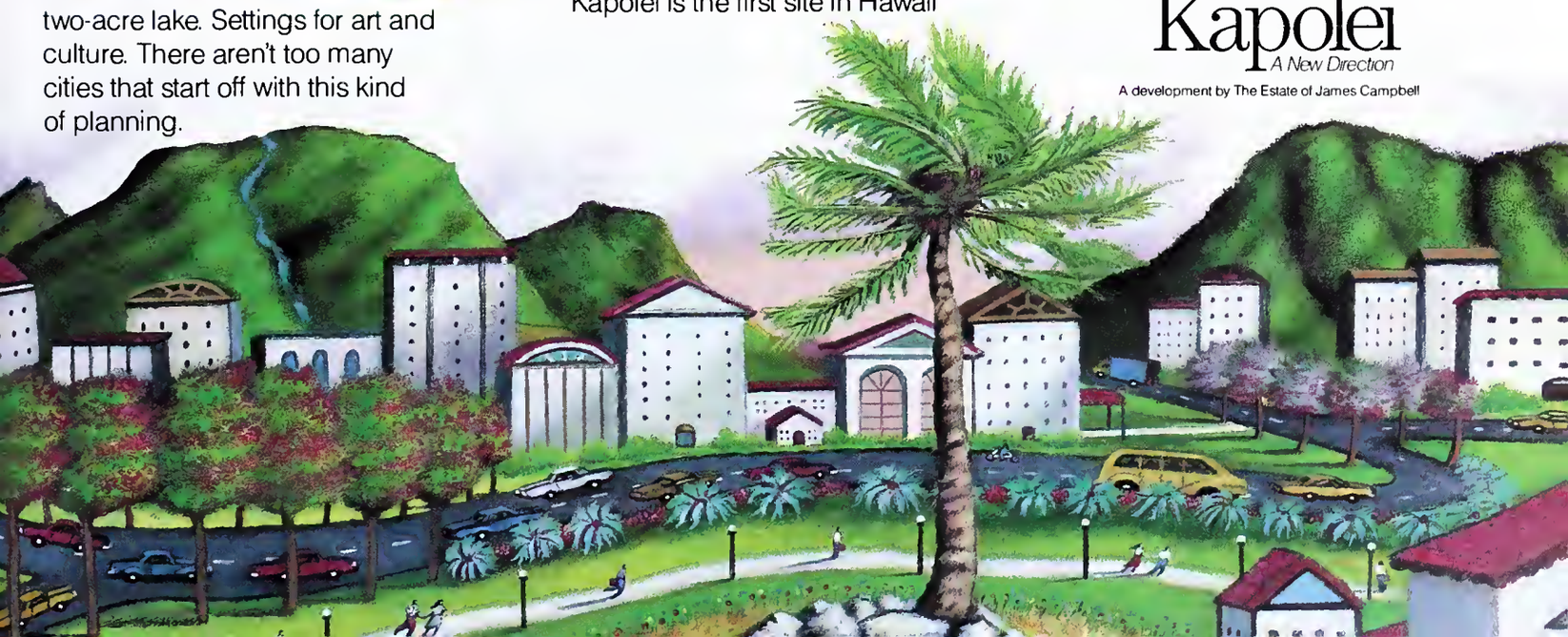
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# Acute Rhabdomyolysis Associated with Cocaine Intoxication: A Case Report

Michael H. Wholey MBA MD*
Eilene Ogasawara JABSM III**
Mohamed H. Ramadan MD***

*Over thirty million Americans are estimated to have tried cocaine at least once and 5 million use it on a regular basis[1]. Recent media attention to the widespread use of cocaine has revealed the growing life-threatening complications that accompany its use. The effects of cocaine on the cardiovascular, pulmonary and central nervous system have been well-described in medical literature, but the complications of acute renal failure secondary to cocaine-induced rhabdomyolysis only recently have been addressed. Presented in this article is a case involving cocaine-induced acute renal failure.*

**Case Report:**

The patient is a 34-year-old Caucasian man with a long-standing problem of i.v. drug abuse who complained of a 5-day history of swelling of his face and upper extremities.

The patient admited to having had a history of heavy intravenous and intranasal cocaine and heroin abuse. However, he had entered a drug rehabilitation program and had remained drug-free for the previous 9 months. Seven days prior to admission, he had injected himself with cocaine and perhaps amphetamines as well. Twelve hours after the injection, the patient noted vague muscle pains and painless "Coca-cola" colored urine.

Five days prior to admission, the patient noted swelling of his face and upper extremities. He also began to complain of lower back pain and intermittent nausea and vomiting (3 episodes involved food only). The patient also complained of "hot and cold" episodes, severe fatigue and general suprapubic pain. He denied having any dysuria or changes in urinary or bowel habits, recent trauma, jaundice, syncope, seizure activity or weight loss.

Past medical history included hepatitis B virus as a teenager secondary to i.v. cocaine and heroin abuse. The patient had had 2 HIV tests, both negative and the last one done 7 months before. He had suffered a fractured left leg a year earlier. His intake of medications included Nuprin 400 milligrams per day for headache and for pain relief. He denied having any drug allergies. He had a 10-pack-year history of cigarette smoking but no significant history of imbibing alcohol.

On physical examination, the patient's vital signs included a temperature of 99 Celsius and blood pressure of 160/80 other vital signs were not remarkable. He was a well-developed young man with obvious forearm and facial edema extending to his neck. No jaundice was observed. Cardiac exam revealed a normal rate and rhythm with a II/VI systolic flow murmur heard best over the left sternal border. Lungs were clear to auscultation and percussion. Abdominal exam was benign with no costovertebral angle tenderness. Both upper and lower extremities revealed 2-3+ pitting edema with small effusions along the the subpatellar areas. The remainder of the physical exam was generally unremarkable.

Laboratory data included the following abnormal values: Serum sodium 126 mmol/L, blood urea nitrogen (BUN) 100 mg/dl, creatinine 13.3 mg/dl, creatinine phosphokinase (CPK) 1740 U/L, lactic dehydrogenase (LDH) 660 U/L SGPT 159 IU/L, phosphorous 5.7 mg/dl, uric acid 9.5 mg/dl and calcium 8.4 mg/dl. There was a slight anemia as evidenced by a hemoglobin of 11.8 g/dl and hematocrit of 35.0. The other blood chemistry values, CBC and coagulation tests were all within normal limits. Urinalysis revealed 2+ protein, 3+

*University of Hawaii Residency Program
** University of Hawaii School of Medicine
*** Nephrologist
1520 Liliha Street
Honolulu, Hawaii 96817

blood; the microscopic findings included 20-30 RBC/HPF and dark brown granular casts. The urine was negative for myoglobin (which was not surprising in view of his myoglobinuria having occurred one week prior to admission).

**The differential diagnosis**

Our initial differential diagnosis of the patient's acute renal problem included the following: cocaine-associated acute myoglobinuric renal failure, acute renal failure secondary to subacute bacterial endocarditis (SBE), interstitial nephritis, "AIDS nephropathy," pre-renal failure, post-renal failure, IgA nephropathy and post-streptococcal glomerulonephritis. He was subjected to various diagnostic tests to narrow the differential. Echocardiogram and blood cultures were unremarkable, reducing the chances of SBE. Urine and serum eosinophil counts were negative. HIV testing was negative. A CT-scan of the abdomen revealed bilateral kidneys that appeared to be swollen and enlarged with associated inflammatory changes as demonstrated by thickening of Gerota's capsule. There was no hydroephrosis. Also noted were pleural effusions and lower lung infiltrates, as well as abdominal ascites. A triple renal scan revealed bilateral renal insufficiency with normal-sized kidneys and no obstruction present. Serum protein and C3 complement studies were all within normal limits. Anti-nuclear antibody titer was < 40; streptozyme levels were slightly elevated at 300 stz units (normal = 0-100). A 24-hour urine study revealed a creatinine clearance of 9 ml/min with adequate volume. Spot sodium of 44 meg/L, potassium of 11 meg/L and chloride of 42 meg/L were also revealed.

**Hospital course**

The patient's treatment in-hospital consisted of careful promotion of diuresis, monitoring of electrolyte abnormalities and initiating a renal diet. Within 4 days, the patient went through a diuretic phase of 3-4 liters of urine output per day, with gradual improvement in his serum creatinine. His course was complicated by an episode of hematemesis of 200 cc of bright red blood. However, he refused to undergo any GI workup. The episode subsided and the remainder of his hospitalization was unremarkable. On day 9, his creatinine level fell to 3.8 mg/dl; his BUN was 48 mg/dl. His phosphorous, calcum and total CPK returned to normal levels.

**Discussion:**

Rhabdomyolysis is a syndrome that develops as the result of a wide variety of causes and clinical circumstances that alter the interaction between energy production and consumption in the muscle[2]. The clinical presentation includes signs and symptoms of generalized myalgias, easy brusing and muscle weakness. The skeletal muscle damage that may result is due to the release of cell content, such as myoglobin, which leads to edema. The edema and its compression of surrounding nerves may account for the motor and sensory deficits[2]. If dark discoloration of the urine results, it is a sign of myoglobin spillage into the urinary tract[3]. Our 34-year-old patient presented with these clinical symptoms as well as with the other characteristic laboratory abnormalities. Marked elevations in CPK, LDH, SGPT and SGOT all signify the presence of oncoming rhabdomyolysis. Elevated BUN and serum creatinine, hyperphosphatemia, hyperuricemia (caused by increased uric acid production in damaged cells) and hyperkalemia are all characteristic of acute renal failure. The ratio of BUN-to-creatinine is normally low in rhabdomyolysis-induced acute renal failure[2].

The pathophysiology of cocaine-induced rhabdomyolysis is unknown. Cocaine blocks the pre-synaptic re-uptake of norepinephrine and dopamine, resulting in an excess of the neurotransmitters at the post-synaptic sites[3]. This may result in vasoconstriction and an increased oxygen consumption of the tissues, causing rhabdomyolysis due to ischemia. Cocaine-induced vasoconstriction may result in hyperpyrexia due to the reaction of heat associated with increased muscle activity; hyperpyrexia can lead to hyperthermia, rhabdomyolysis and renal failure[4]. Another stated cause of drug-induced rhabdomyolysis is limb compression during coma (this did not occur in our patient). Cocaine use is often associated with increased seizure activity and status epilecticus[4].

Approximately one-third of patients with cocaine-induced rhabdomyolysis end up with acute renal failure, with cocaine-induced vasospasm and renal artery thrombosis[1]. Other causes for the acute renal failure include the accumulation of myoglobin and its metabolites, resulting in tubular obstruction, decreased glomerular permeability and renal ischemia[5]. Factors that worsen renal failure include hypotension, depletion of intravascular volume and intravascular coagulation.

**Conclusion:**

As the result of the widespread abuse of cocaine within our society, it is the responsibility of the physician to recognize the drug-related complications of cardiopulmonary disorders, central nervous system diseases and in particular, acute renal failure secondary to rhabdomyolysis. Fortunately, the mortality associated with acute renal failure is generally lower than that from other causes. Treatment is primarily supportive, consisting of proper fluid and electrolyte management and frequent monitoring of renal function. Although not routinely recommended, alkalinization of the urine by giving sodium bicarbonate is thought to minimize the nephrotoxicity of the myoglobin by enhancing its excretion[2]. Hemodyalysis may become necessary if renal failure persists. ■

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# Methamphetamine in Psychiatric Emergencies

Richard R. Szuster, MD

*This study examines the clinical characteristics of patients with methamphetamine-induced organic mental disorders that were seen in a psychiatric emergency service. This was a highly dysfunctional group, requiring psychiatric hospitalization in 90% of cases. The most consistent clinical feature was the presence of an organic delusional syndrome, with paranoid ideation and hallucinations. Methamphetamine abusers were also unique in their propensity for violence; 43% of the group had clear histories of aggression towards others. The increasing use of methamphetamine together with its ability to produce severe dysfunction should be a major concern for treatment of professionals and communities alike.*

## Introduction

Methamphetamine is a potent sympathomimetic amine capable of producing physiologic alterations in the body, including cardiovascular stimulation, bronchodilation, mydriasis and other effects mediated by alpha- and beta-adrenergic receptors[1]. In the central nervous system, methamphetamine generates increased synaptic levels of dopamine, noradrenaline and very likely serotonin, resulting in psychomotor activation, anorexia, hypodipsia, respiratory stimulation, hyperthermia, lessened fatigue and a euphoric sense of well-being[2]. Due to its euphoriant and anti-fatigue effects, experimentally methamphetamine is readily sought and self-administered by humans as well as a variety of experimental animals[3].

The smoking of crystal methamphetamine has become increasingly common in Hawaii and is felt by some to have reached epidemic proportions. Data from the National Institute on Drug Abuse indicates a national trend of increasing use of methamphetamine, as measured by emergency room reports[4]. Its manifestations have become an increasingly important problem in emergency rooms both locally and nationally.

Methamphetamine has long been of interest to psychiatrists because the psychosis it produces closely mimics paranoid schizophrenia[5] It has been suggested that it is a heuristic model of functional psychosis[6,7].

The purpose of the current study is to examine the clinical features of individuals with methamphetamine-induced organic mental disorders who present themselves to a psychiatric emergency service in order to clarify their unique clinical features at the time of the acute illness.

## Methods

This study was conducted in the psychiatric emergency service of the Queen's Medical Center, Honolulu. The psychiatric emergency service provides 24-hour care, 7 days a week. It is staffed by psychiatric residents who are supervised by an attending psychiatrist.

The patient sample was drawn from a consecutive series of 343 patients seen by the psychiatric emergency service in July and August, 1988. Each patient was medically cleared by the emergency room physician prior to being assessed by the psychiatric resident. The psychiatric resident completed a full standardized psychiatric evaluation on each patient and, in addition, specifically evaluated each of the patients regarding his or her alcohol and drug use by means of a standardized questionnaire. The questionnaire relied on the patient's self-reported history of drug and alcohol use, current use patterns and use within the 24 hours prior to evaluation. The types of psychoactive substances used, the amounts generally used and the frequency and duration of use were recorded.

Individuals with methamphetamine-induced organic mental disorders were identified based on the information collected by the drug and alcohol use questionnaire and the resident's final diagnosis. Of the total group of 343 patients, 32 were identified whose primary diagnosis included a methamphetamine-induced disorder. Of these 32 individuals, 14 gave a history of exclusive current use of methamphetamine (ie

*(Continued)* ▶

Clinical Director
Adolescent Chemical Dependency Program
Kahi Mohala Hospital

Clinical Instructor,
Department of Psychiatry
John A. Burns School of Medicine,
University of Hawaii
Honolulu, Hawaii

Direct correspondence to:
Richard R. Szuster, MD
Kahi Mohala Hospital
91-2301 Fort Weaver Road
Ewa Beach, HI 96706

**Table 1: Clinical Characteristics of patients with methamphetamine-induced disorders versus other drug and alcohol-induced disorders.**

| | Methamphetamine-Induced Disorders N = 14 | | Other Drug and Alcohol-Induced Disorders N = 47 | | | |
|---|---|---|---|---|---|---|
| | N | % | N | % | x2, (df=1) | P |
| Abnormal vital signs | 9 | 64.3 | 27 | 57.4 | 0.38 | ns |
| Auditory hallucinations | 9 | 64.3 | 13 | 27.6 | 6.33 | <.025 |
| Visual hallucinations | 5 | 35.7 | 4 | 8.5 | 6.77 | <.01 |
| Paranoid ideation | 12 | 85.7 | 5 | 10.6 | 29.5 | <.001 |
| Suicidal ideation | 4 | 28.6 | 17 | 36.1 | 0.4 | ns |
| Suicide attempts | 1 | 7.1 | 7 | 14.9 | 0.77 | ns |
| Aggressive ideation (toward others) | 7 | 50.0 | 11 | 23.4 | 4.06 | <.05 |
| Aggressive actions (toward others) | 6 | 42.8 | 9 | 19.1 | 4.83 | <.05 |

they denied current abuse or dependence on other drugs or alcohol) and did not meet the criteria for any concomitant psychiatric disorder. These 14 "exclusive" users of methamphetamine were the focus of the current study.

A control group was established consisting of 47 patients diagnosed as having other (non-methamphetamine) drug- or alcohol-induced organic mental disorders. Dual diagnosis patients (ie patients with a diagnosis of another psychiatric disorder concomitant with a drug- or alcohol-induced disorder) were excluded from the control group.

The clinical features of the methamphetamine-induced disorders group and control group were examined and chi square analyses were used to compare differences between the groups.

## Results

The 14 patients with methamphetamine-induced organic mental disorders consisted of 11 males and 3 females. One subject was under 21 years of age, and the remaining 13 subjects were between 21 and 40 years of age.

With regard to ethnicity, 1 of 14 (7%) was Caucasian, 6 of 14 (43%) were Hawaiian or part-Hawaiian and 7 of 14 (50%) were Filipino or part-Filipino.

Ninety-three percent of the methamphetamine group (13 of 14) required inpatient psychiatric hospitalization as compared with 57% (27 of 47) of the control group. This was a significant difference ($p < 0.05$, $df = 1$, $x^2 = 4.97$).

Table 1 provides the clinical characteristics of the 14 subjects with methamphetamine-induced disorders compared with the control group. Patients with methamphetamine-induced disorders had significantly more auditory hallucinations, visual hallucinations, paranoid ideation, and were more often aggressive. The groups did not differ significantly in vital sign abnormalities, suicidal ideation, or suicide attempts.

## Discussion

The increasing abuse of methamphetamine is an important phenomenon for emergency medicine physicians and psychiatrists alike. In this study, 90% (13 of 14) of patients with methamphetamine-induced organic mental disorders presenting to a psychiatric emergency service, were psychiatrically hospitalized. This indicates a high degree of acute psychiatric dysfunction. The most consistent clinical feature in this group of individuals was the presence of an organic delusional syndrome with paranoid ideation and hallucinations (more commonly auditory, but occasionally visual). The evolution of the amphetamine-induced paranoid psychotic state has been described previously[8] and usually resolves within 10 days of abstinence. In approximately 10% of individuals, however, it persisted for more than 6 months[9], suggesting two clinical courses for methamphetamine psychosis. The first seems dependent on the acute hyper-dopaminergic state induced by methamphetamine use; the second is more likely the result of a qualitative alteration in dopamine receptors[9]. Animal experiments have demonstrated destruction of central dopaminergic and serotinergic nerve terminals[10] the result of methamphetamine use, and this may be one important factor in the chronic qualitative alteration in central dopaminergic function.

Once the psychosis has resolved, a significantly shorter period of methamphetamine use (sometimes a single dose) may quickly reproduce the psychotic state[9].

Another important aspect of the clinical presentation of

methamphetamine abusers was the high degree of aggression directed toward others. Whereas suicide attempts were present in only 7% (1 of 14), aggressive actions occurred in 43% (6 of 14) of the methamphetamine-induced disorder group. This was significantly more than in the control group. This factor has obvious deleterious implications for communities in which methamphetamine use is prevalent.

This study has methodological limitations that are important to consider. The study used a structured self-report format for data collection and not all subjects had verification of diagnosis by screening of blood or urine for toxic substances. This factor potentially could have a significant effect on the findings since substance-abusers have a propensity to misrepresent their drug and alcohol use[11]. In addition, the study was undertaken at a psychiatric emergency service and the subjects are quite likely to be the most dysfunctional group of methamphetamine-abusers. Within the confines of these limitations, however, our findings do indicate that methamphetamine is a particularly toxic drug in its potential for the production of serious dysfunction in users. Its increasing use is of serious concern to treatment professionals and communities alike. ■

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- Prolonged use may result in overgrowth of non-susceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

**Adverse Reactions:** (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Hypersensitivity reactions have been reported in about 1.5% of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of **serum-sickness-like** reactions have been reported with the use of Ceclor. These are characterized by findings of erythema multiforme, rashes, and other skin manifestations accompanied by arthritis/arthralgia, with or without fever, and differ from classic serum sickness in that there is infrequently associated lymphadenopathy and proteinuria, no circulating immune complexes, and no evidence to date of sequelae of the reaction. While further investigation is ongoing, **serum-sickness-like** reactions appear to be due to hypersensitivity and more often occur during or following a second (or subsequent) course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults with an overall occurrence ranging from 1 in 200 (0.5%) in one focused trial to 2 in 8,346 (0.024%) in overall clinical trials (with an incidence in children in clinical trials of 0.055%) to 1 in 38,000 (0.003%) in spontaneous event reports. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy; occasionally these reactions have resulted in hospitalization, usually of short duration (median hospitalization = two to three days, based on postmarketing surveillance studies). In those requiring hospitalization, the symptoms have ranged from mild to severe at the time of admission with more of the severe reactions occurring in children. Antihistamines and glucocorticoids appear to enhance resolution of the signs and symptoms. No serious sequelae have been reported.
- Stevens-Johnson syndrome, toxic epidermal necrolysis, and anaphylaxis have been reported rarely. Anaphylaxis may be more common in patients with a history of penicillin allergy.
- Gastrointestinal (mostly diarrhea): 2.5%
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1% and, rarely, thrombocytopenia and reversible interstitial nephritis.

Abnormalities in laboratory results of uncertain etiology:

- Slight elevations in hepatic enzymes.
- Transient lymphocytosis, leukopenia, and, rarely, hemolytic anemia and reversible neutropenia.
- Rare reports of increased prothrombin time with or without clinical bleeding in patients receiving Ceclor and Coumadin concomitantly.
- Abnormal urinalysis; elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly).

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*Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.*

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# Maka O Ka Kauka

RUSSELL R.T. STODD MD

**It's not how much an item costs, it's how much you save!**

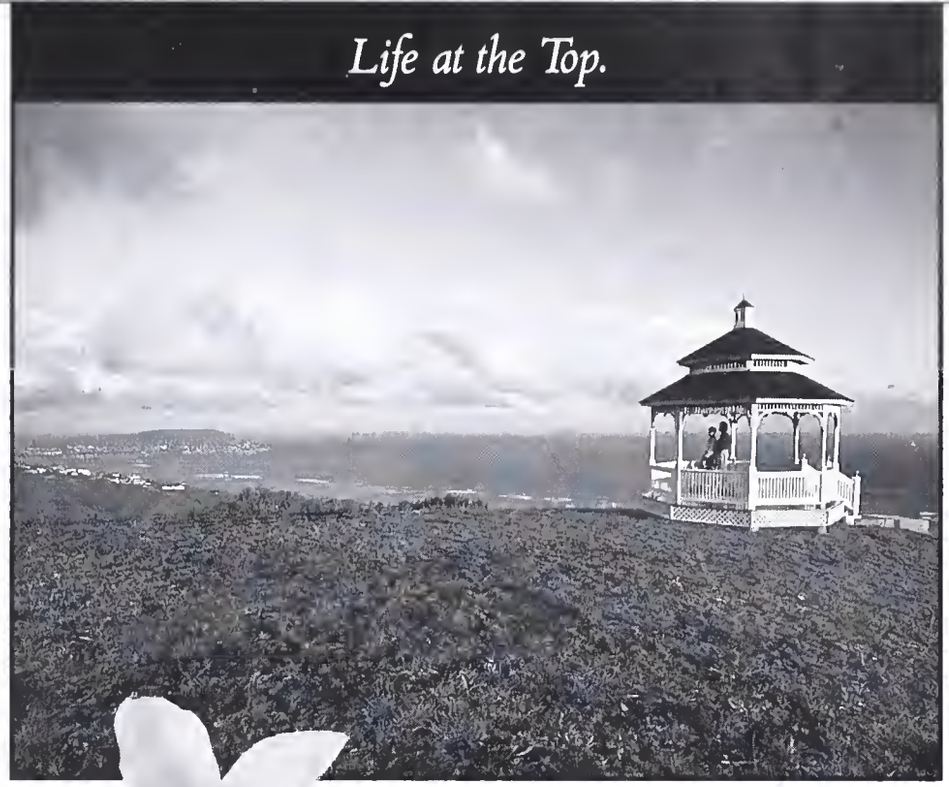
"Our preliminary findings indicate that this program, as currently performed by PRO for cataracts, is not cost effective and is questionable for other procedures," reported Office of the IG. "We could get rid of PROs and it would make no difference," said Rep. Fortney Stark. Is light beginning to creep into the crevices of the bureaucratic gyri which hold domain over the corpus medicinensis? Before letting your hopes soar, consider this opposing position from John David Busby, MD, VP of American Medical Peer Review Association. (Leave my gravy train alone!) Dr. Busby said PROs are concerned about the potential that physicians will falsify information for preauthorization. He suggests a random second opinion program with complete reexamination to verify the need for surgery. So, if a plan is failing, expand it! In defense of ophthalmologists, Richard Mertz MD, reviewer for the Michigan PRO, contended that the 95% rate of vision improvement and rarity of patient complaints are evidence that Medicare and patients are getting their money's worth.

**The means justifies the means. The approach to a problem is more important than the solution.**

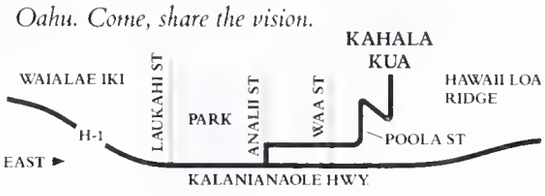
In Wisconsin, the mid-America center of socialized planning, over the objections of the AMA, the PROs intend to conduct in-office record reviews beginning in January 1991, for 13 conditions such as Hi BP, ASCVD, CHF, COPD, BPH, GI ulcer, et al. Originally they planned to include cataract as well, but after a PRO panel worked for five hours on terms, measurements, and abbreviations, they decided it would be just too complex for a nurse reviewer, and cataract was dropped from the pilot project. Six other PROs are participating in the pilot along with Wisconsin: Arizona, Con-

*(Continued)* ▶


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**Health food makes me sick.**

There is an occasional insightful bureaucrat. One executive with the Environmental Protection Agency has stated that America would be far better served if the entire EPA budget was given to the American Cancer Society. He observed that exposure to environmental carcinogens is unavoidable, and that benefits of some of the so-called risky manmade chemicals appear to far outweigh costs of restriction. However not to worry, if the EPA were to disappear, we would still have Jane Fonda, Robert Redford and Meryl Streep to protect us from such poisons as alar.

**It is much easier to recognize error than to find truth.**

An organization calling itself "Public Citizen Health Research Group," a Ralph Nader spinoff, has released a national directory of "6892 Questionable Doctors." This publication advised patients whose doctors are included on the list to question the quality of his or her care. In typical Nader shotgun manner, the list includes serious offenders, such as criminal convictions, alcohol or drug abuse, practicing without a license, misprescribing drugs and sexual abuse. However, the list also includes doctors cited for trivial infractions such as missing student loan payments, or not filing for CME credits. The report sells for $30 ($100 to doctors or lawyers), and also lists addresses and phone numbers of state agencies consumers can contact to check whether their doctors have been cited for misconduct.

**For certain people after fifty, litigation takes the place of sex.**

While statistics demonstrate that malpractice complaints have leveled off in Hawaii, such is not the case around the country. In the first four months of 1989, health care providers lost 252 cases, by far the worst rate for the medical profession ever, with 105 awards of at least $1 million, more than the entire preceding year. In 1980 there were 146 verdicts against health care providers, but in 1988 that number had leaped to 398. No doubt, we will be in for another "malpractice crisis" as the cycle continues. A related aside — of 70% of law-

suits for delayed diagnosis of breast cancer, the patient found the lump, but the physician ignored her.

**As Murphy said, "If anything can go wrong . .**

" An interesting complication of posterior dislocation of hydrogel IOLs (following capsulotomy) reported by Jerome Levy MD of Manhattan Eye & Ear is that, unlike dislocated PMMA or silicone lenses which tend to lodge in the inferior vitreous, the hydrogel lens is so light it floats ad lib through the vitreous like a leaf caught in a spring breeze.

**"Every government is run by liars and nothing they say should be believed," I.F. Stone**

Representative Roy Rowland, MD (D. Ga.) introduced HB 4475 (companion bill SB 2591), the so-called "anti-hassle" bill, which was composed by the AMA and is budget neutral. This bill will go a long way toward eliminating many of the petty requirements that have crept into Medicare. Additionally, it appears that carriers won't be looking over your shoulder as much in FY90 and even less in FY91 (incidentally, FY means fiscal year, not what you may have thought), due to severe budget cuts in Medicare payment oversight—less money is available for claims review. The FY91 Bush budget will freeze oversight funds at current levels, $26 million cut (7%) in 1990, while total Medicare claims are expected to increase 10%. The result—deep slashes in nurse reviewers. Gail Wilensky, PhD (economist), the new Director of HCFA, and wife of a plastic surgeon, has repeatedly promised that one of her priorities will be to reduce the many nit-picking, costly, time and labor intensive rules currently imposed on those of us dealing with Medicare/ Medicaid. But, as Dorothy Parker wrote: "Life is a glorious cycle of song, a medley of extemporania: And love is a thing that can never go wrong, and I am Marie of Romania!"

**You've come a long way baby.**

Information for those with smoking females in the extended family: Lung cancer has now surpassed breast cancer as the most common form of cancer in

*(Continued)* ▶

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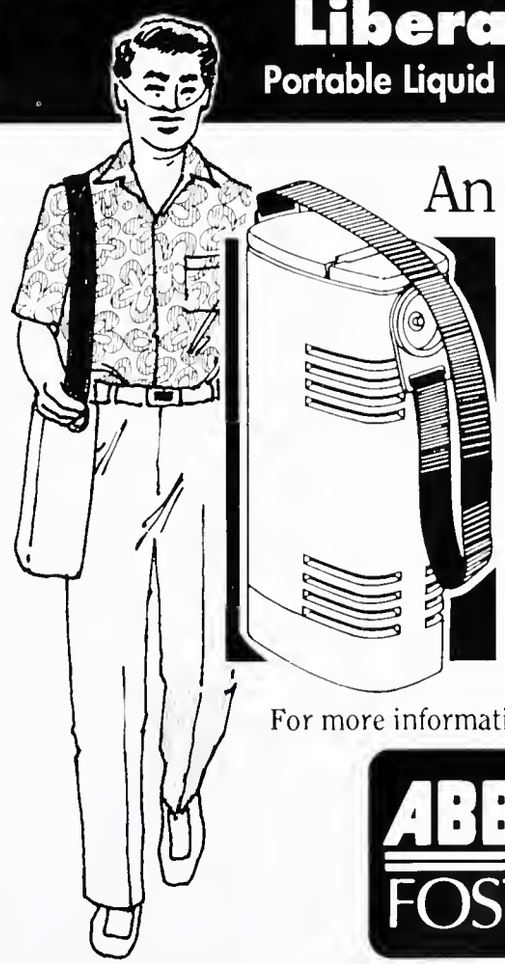
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females. Other smoking-related problems are a higher incidence of ASCVD, hypertension, stroke, cervical cancer, miscarriage and premature birth. A risk of a different sort is the computer — seven pounds in one year is what a typist can gain when switching from a manual typewriter to a word-processor. The gain results from less effort needed for filing as well as typing.

**An ounce of image is worth a pound of performance.**

Beware of Greenspan — When Alan Greenspan, the current Chairman of the Federal Reserve Board was a private consultant during the years 1982 to 1986 his *closest* interest rate forecast prediction was off a full percentage point off the actual rate. In three of those five years, rates went a different direction than what he foresaw, all this according to a study by William Melton, chief economist for IDS Financial Services. Well hey, "Nobody's perfect" as Roseanne Barr said at a recent baseball game.

**The customer is always ... questionable.**

How often have you been asked to write your phone number when signing a credit card slip? Such demands for information violate your privacy according to the Bankcard Holders of America, a nonprofit consumer information organization. Visa, MasterCard and American Express *prohibit* merchants from refusing to do business with people who won't provide this information. *The Truth:* If the merchant correctly processes the transaction, financial responsibility is automatically assumed by the merchant's bank.

**Addenda**

— In a series of 46 patients with AIDS who developed CMV retinitis, the median survival time was 5.5 months.

— No known case of transmission of HIV has been reported in the practice of ophthalmology.

— Buy old masters. They fetch a better price than old mistresses.

Aloha, and keep the faith,
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## Over the Editor's Desk

**REPORT IN PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES DOCUMENTS KEY IMMUNE RESPONSES TO AIDS VACCINES** — French and U.S. researchers report in *Proceedings of the National Academy of Sciences* (USA) (PNAS) that the HGP-30 AIDS vaccine elicits the production of CD8+ killer T-cells which recognize the same targets as CD8+ killer T-cells obtained from HIV infected individuals. CD8+ killer T-cells are the major defense mechanism by which the body eliminates virally-infected cells. This scientific paper concludes that the p17 "core" based HPG-30 AIDS vaccine "may be an important candidate subunit vaccine either alone or in combination with other subunit vaccines ... against HIV infection."

This report is the first peer-reviewed scientific publication that documents the production of CD8+ killer T-cells in response to an AIDS vaccine. It has been known for many years that the major defense mechanism by which virally-infected cells are killed and eliminated from the body is by the development of CD8+ killer T-cells. It is now recognized that this is true for AIDS infection as well. Recent publications about two envelope-based candidate AIDS vaccines have demonstrated that the production of CD4+ killer T-cells, but not the production of CD8+ killer T-cells. CD8+ killer T-cells are able to kill *all* AIDS infected cells throughout the body, whereas CD4+ killer T-cells are restricted, and able to kill *only* AIDS infected immune system cells. Furthermore, the presence of CD8+ killer T-cells have been found to be associated with a greater longevity of HIV-infected individuals.

**LAMINECTOMY EFFECTIVE FOR MOST HERNIATED DISKS** — The AMA Diagnostic and Therapeutic Technology Assessment (DATTA) program has concluded that conventional

*(Continued)* ▶

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laminectomy and microsurgical laminectomy are safe and effective procedures in treating the most common types of herniated disks. In the DATTA report published in *JAMA*, physician experts concurred the procedures were valuable after all conservative therapies had been tried. They could not agree on the use of microsurgical laminectomy for ruptured, fragmented disks, however. "Back pain is responsible for an average of 12 percent of all sick leave and a direct cost of $16 billion for health care and lost work," according to the report. "Every year approximately 200,000 operations are performed for disk disease in the United States alone."

**STUDIES FIND TYPE OF PAYER AFFECTS CARE** — Two studies published in a recent *JAMA* have found that forms of payment affect the care patients receive.

The first study found that during the mid-1980s, Medicaid assumed an increasing portion of hospitalization costs for AIDS patients, while the portion paid by private insurance decreased. This limited access to the private physicians and probably accounted for the finding that AIDS patients on Medicaid were much more likely to be admitted to public hospitals via emergency rooms than patients with private insurance.

The trend concerns the authors because of the low rates at which Medicaid reimburses physicians. "Medicaid pays such low rates to physicians that access to office-based primary care is jeopardized," they write. For common AIDS-related services, Medicaid in San Francisco pays an average of 33 percent of what Blue Cross/Blue Shield pays; in New York City, it averages 15 percent.

The authors looked at utilization rates of coronary angiography, bypass grafting and angioplasty for patients with private insurance, Medicaid or who were uninsured.

"We found that the odds that privately insured patients received angiography were 80 percent higher than uninsured patients; the odds were 40 percent higher for bypass grafting and 28 percent higher for angioplasty," writes Mark B. Wenneker, MD, PhD, of the Department of Health Policy and Management, Harvard School of Public Health, Boston, Mass., and colleagues.

In an editorial accompanying the two

articles, James S. Todd, MD, executive vice president of the American Medical Association, writes, "[m]any hypotheses could be advanced to explain these differences, but all would raise the issue that the volume and location of care seem related to the availability of funding. The issue then becomes how far we can go, or should we go, in manipulating funding mechanisms to produce more equal distribution of treatment.

"To address these issues, the American Medical Association has advanced a 16-point prioritized program called Health Access America, which, if implemented, would erase the economic incentives or at least make them so neutral that physicians could give needed care as determined by practice parameters, and patients could seek care secure in the knowledge that their treatment would not depend on economics ... All of us, without exception, must begin to order our priorities and recognize the unmet needs of some of our citizens and the overmet needs of others."

**STUDIES FIND SMOKING AND DEPRESSION HIGHLY CORRELATED** — In a related *JAMA* study, depressed smokers were less able to "kick the habit" when compared with nondepressed smokers.

The two studies may lend further support to the "self-medication" theory of substance abuse: people become addicted to certain drugs to combat painful feelings and help the user feel more "normal."

The association between depression and smoking was not uniform across other psychiatric conditions studied. Although smoking is often linked to anxiety and tension, there was no significant relationship between smoking and the anxiety-related diagnosis of phobia, panic and obsessive-compulsive disorders after depression was excluded from analysis. However, the researchers did find a high rate of smoking among alcoholics in the sample.

Smokers without a lifetime history of major depression were more than twice as likely as depressed smokers to successfully quit smoking, the authors report. They theorize, however, that "when individuals with a history of major depression stop smoking, depressive symptoms, and, in some cases, serious major depression may ensue."

In an accompanying editorial, Richard M. Glass, MD, of the American Medical

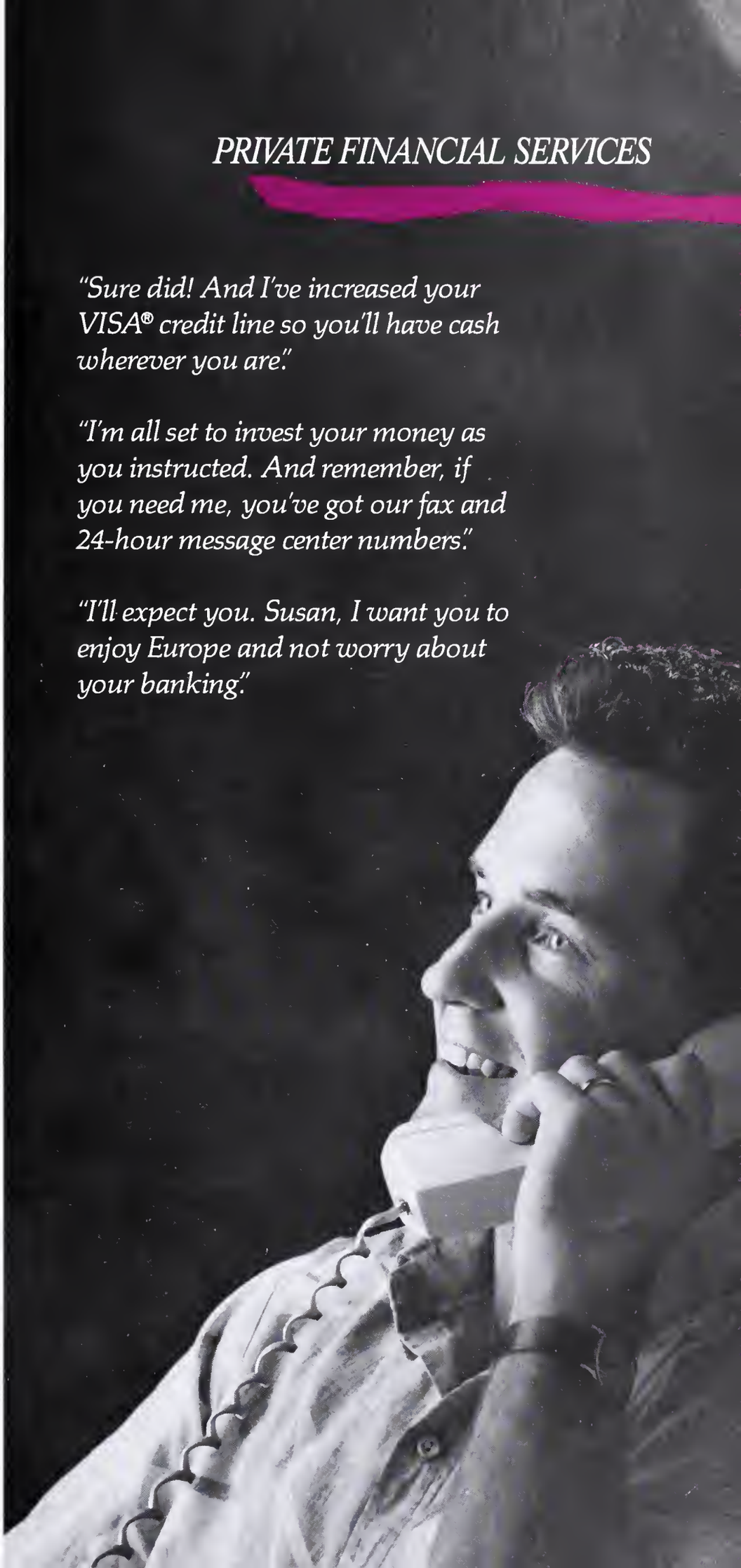
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**OTED** *(Continued)*

Association believes it is still too early to "recommend routine use of antidepressant treatment to assist smoking cessation for all smokers with a history of depression."

**COFFEE AND COLAS MAY BLOCK EFFECTS OF NICOTINE GUM** — Patients trying to wean themselves off a nicotine addiction by using nicotine polacrilex gym may be blocking nicotine absorption by drinking colas and coffee, according to an article by *JAMA*.

The pH of saliva determines the amount of nicotine absorbed through the mouth, writes Jack E. Henningfield, PhD, of the Clinical Pharmacology Branch, National Institute on Drug Abuse, Addiction Research Center, Baltimore, MD., and colleagues. "Because the volume of whole-mouth saliva is typically only a few milliliters, its pH can be readily altered," they write.

The authors recommend that substances more acidic than tap water — including chocolate milk, beer, soy sauce and mustard — should be avoided just before or during gum use. "The overall effect of commonly consumed beverages is to lower drastically the pH of whole-mouth saliva. Such acidification can virtually eliminate absorption of nicotine," they write. "We also conclude that nicotine polacrilex use should be delayed at least 15 minutes after food or liquid consumption.

**COMMON FORM OF DIABETES BRINGS MORE COMPLICATIONS, REQUIRES MORE TREATMENT THAN PREVIOUSLY THOUGHT** — Some 90% of all diabetics in developed countries have Type II, or non-insulin-dependent, diabetes. The World Health Organization has labeled the condition the world's most prevalent metabolic disease. Like Type I (insulin-dependent) diabetics, Type II diabetics are at increased risk of cardiovascular disease, stroke, kidney damage (diabetic nephropathy), and eye damage (diabetic retinopathy) that may lead to blindness.

"Type II diabetics have twice the risk of coronary heart disease and hypertension as compared with non-diabetics, and four times the incidence of stroke," commented Dr. Anders Dejgaard, a Novo Nordisk medical director.

In fact, approximately 20% of Type II diabetics already have retinopathy at the time their diabetes is diagnosed. The prob-

lem is particularly pronounced in patients with higher blood sugar levels. Almost 50% of Type II diabetics develop retinopathy within five years of diagnosis.

Specific practice recommendations of the statement include measurement of glycated hemoglobin every 2 to 4 months; annual checks of serum cholesterol and triglycerides; and regular monitoring for complications.

"We believe the development of diabetic complications can be delayed if Type II diabetics receive more intensified treatment when they are first diagnosed," Dr. Dejgaard commented. "With the European consensus and accumulating data pointing to more aggressive treatment for Type II diabetics, we need to maximize the benefits of therapy and its acceptability to patients," he said.

**INCIDENCE OF SYPHILIS, RESISTANT GONORRHEA UP** — Two studies in a recent issue of *JAMA* indicate that gonorrhea and syphilis persist as health problems.

One study found that syphilis in the U.S. is at its highest levels since 1949. Rates of primary and secondary syphilis increased 34 percent from 1981 to 1989, according to the study done by Robert T. Rolfs, MD, and Allyn K. Nakashima, MD, both of the Division of Sexually Transmitted Diseases/Human Immunodeficiency Virus Prevention at the Centers for Disease Control, Atlanta, Ga. Syphilis rates increased from 13.7 to 18.4 cases per 100,000 population.

The second study, that of treatment-resistant strains of Neisseria gonorrhoeae, found "although the incidence of gonorrhea decreased since 1975, infections caused by antimicrobial-resistant gonococci have become an increasing problem."

Data from the Gonococcal Isolate Surveillance Project were used to study 6,204 isolates from 21 clinics nationwide. "Twenty-one percent met at least one of the surveillance criteria for resistance to penicillin, tetracycline, cefoxitin, or spectinomycin," writes author Sandra K. Schwarcz, MD, MPH, of the Division of Sexually Transmitted Diseases, Centers for Disease Control, Atlanta, Ga., and colleagues.

The current first-line therapy for gonorrhea is a single injection of ceftriaxone combined with seven days of oral doxycycline. The authors found all isolates were susceptible to ceftriaxone.


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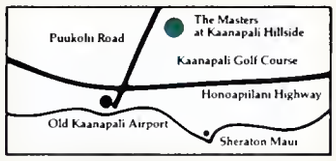
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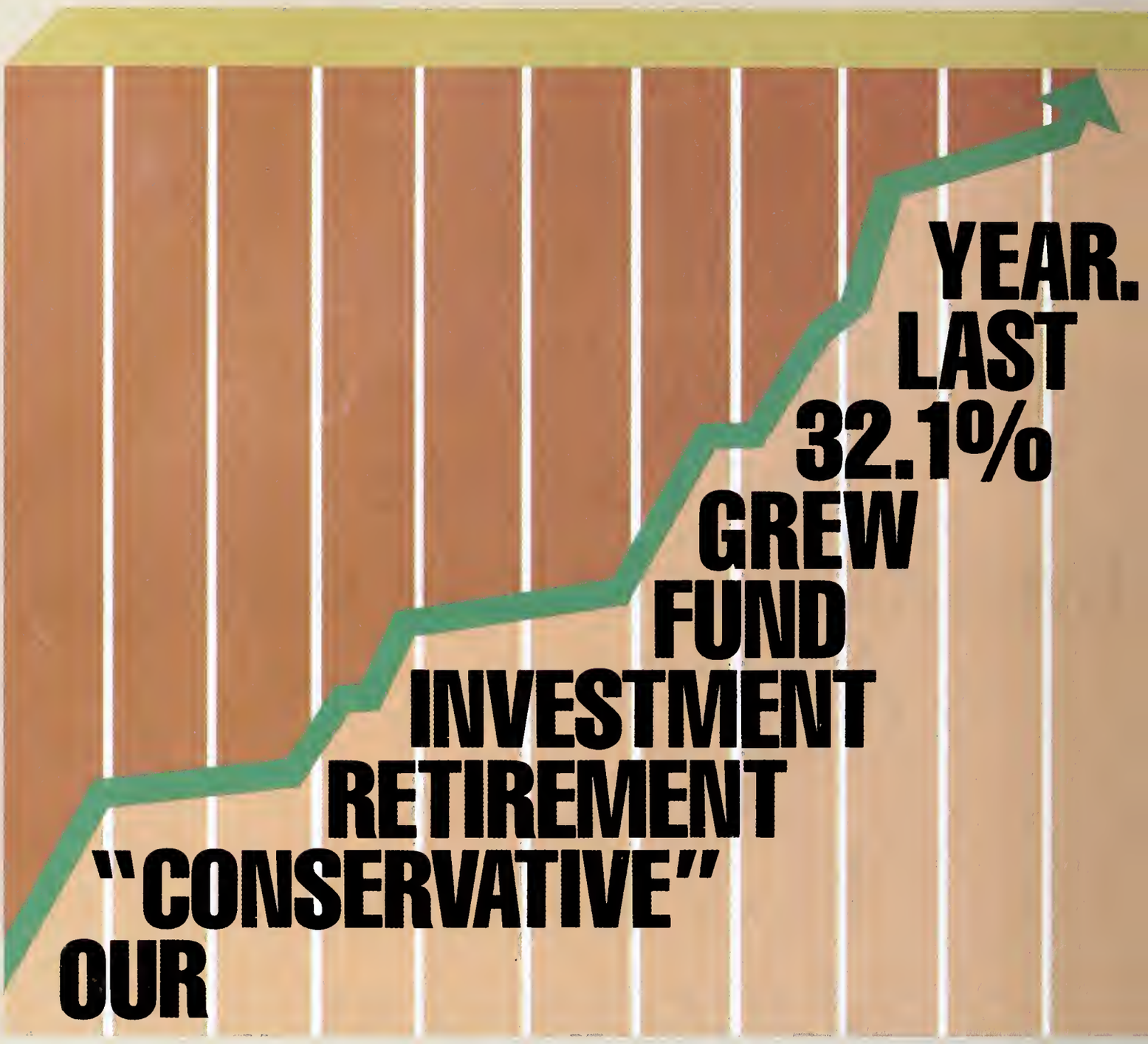
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# Hawaii Medical Journal

## CONTENTS

**EDITORIAL** 408
**Papa Ola Lokahi**
J.I. Frederick Reppun MD

**Resolution No. 19** 411
**Re: Naming HMA Conference Room**
Calvin C.M. Kam MD

**Highlights of the HMA House of Delegates** 413

**THE CLINICAL SIGNIFICANCE OF MICROALBUMINURIA IN DIABETES MELLITUS** 417
Michael H. Nagoshi MD
Willard Y. Miyahira MD

**OFFICE SCREENING OF PITUITARY RESERVE** 423
Werner G. Schroffner MD

**TRANSESOPHAGEAL ECHOCARDIOGRAPHY (TEE): ITS DIAGNOSTIC VALUE IN ENDOCARDITIS** 428
Osamu Fukuyama MD
Debra Hiraoka RDMS

**INSTRUCTIONS TO AUTHORS** 432

**NEWS AND NOTES** 433
Henry Yokoyama MD

**MAKA O KA KAUKA** 438
Russell T. Stodd MD

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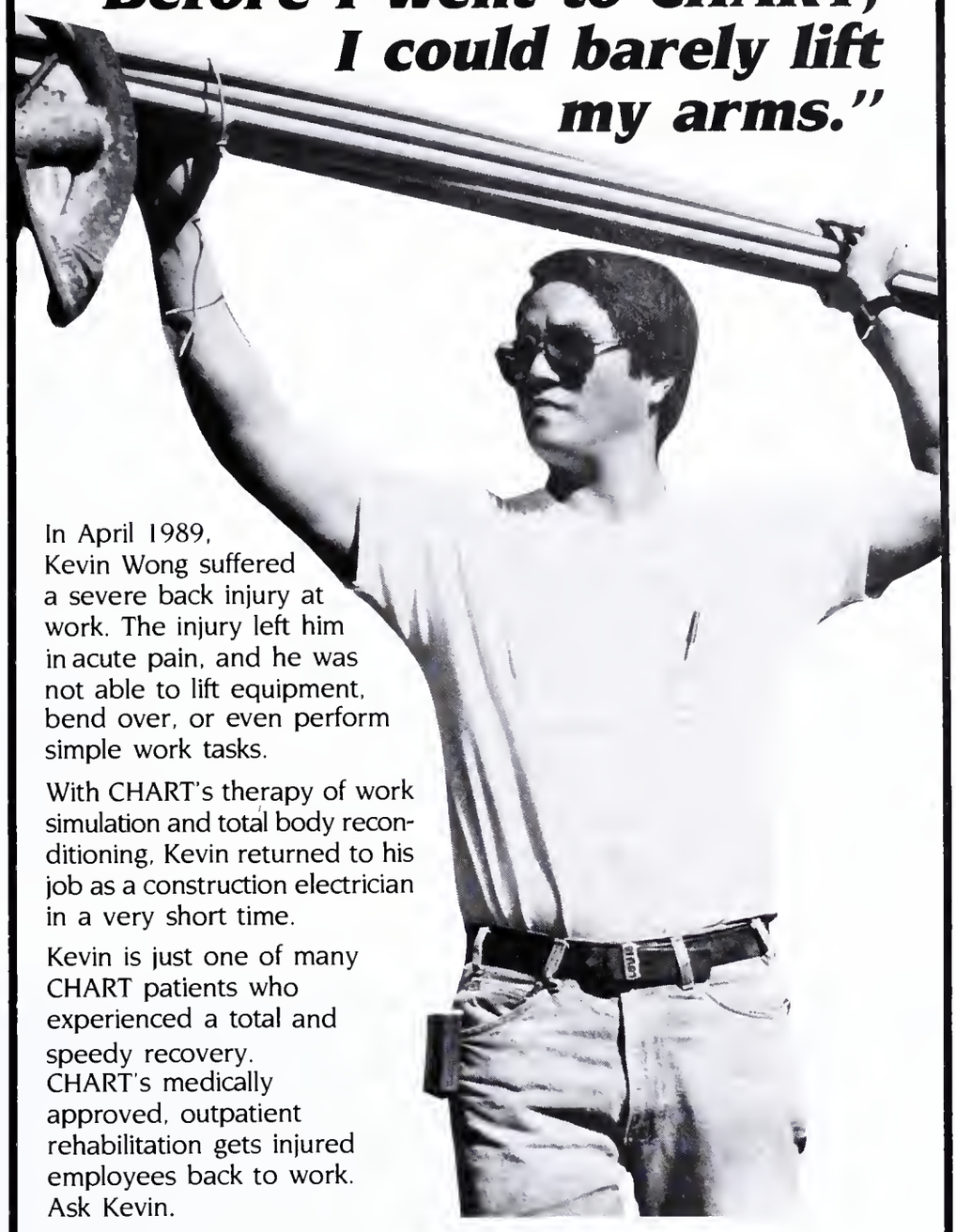
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# Papa Ola Lokahi

The Hawaii Medical Association has been willing and anxious to help implement Public Law 100-579 known as the Native Hawaiian Health Care Act of 1988.

From the beginning of its planning stage, our own George H. Mills, formerly a Trustee of the American Medical Association and a long-time delegate to the AMA from the HMA, has taken upon himself the responsibility of keeping himself abreast of developments and reporting such to the Council and House of Delegates of the HMA. It has been a rather thankless task in the sense that his input to the planning, development and implementation of the Act has not been appreciated to a large extent by the community of "Native Hawaiians"; nor has his efforts drawn much attention from the HMA as yet.

George's credentials for the task are impressive:

(a) He has been a member of the Associated Hawaiian Civic Clubs, composed of 42 clubs nationwide, since 1959; he has served as president and is currently President Emeritus.

(b) He was the Medical Director of the Kamehameha Schools from 1953 to 1986.

(c) He was on the board of the Liliuokalani Trust for 10 years.

(d) He was involved with the health care of the beneficiaries of the Hawaiian Homestead Act for many years.

(e) He served as vice-chairman of the State of Hawaii Comprehensive Health Planning Commission that pre-dated "SHIPDA," the State Health Planning & Development Agency that determines whether a Certificate of Need (CON) is necessary before any new health care facility can be built.

(f) As a graduate of the Kamehameha Schools and receiving his MD from Boston University of Medicine, Mills was one of the few Hawaiians of his day to go into medicine.

(g) His medical honors are many, but only peripherally germaine to the issue at hand.

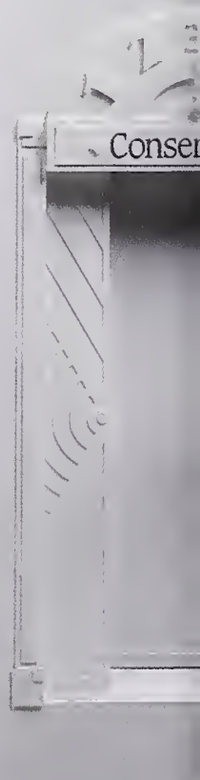
George describes *Papa Ola Lokahi* (broadly translated as


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"To bring about the health" of the Hawaiians) as the brain child of Senator Daniel K. Inouye who nurtured the bill in Congress until it became law. The Act's purpose is "health promotion, disease prevention and primary health care services to be provided to 'Native Hawaiians' residing in Hawaii through federally funded Native Hawaiian health care systems."

The Act defines Native Hawaiian as "any individual who has any ancestors that were natives prior to 1778 in the area that is now included in the State of Hawaii."

The Act specifies that "up to 9 health care systems are authorized, 2 on Kauai (to include Niihau), 2 on Oahu, 1 on Molokai (to include Lanai), 2 on Maui and 2 on the island of Hawaii." These can be interpreted as meaning Health Care Centers or organizations, entities that can be stretched to encompass a gamut of functions and services with an outreach by contract, etc.

*Papa Ola Lokahi* itself, as an umbrella organization for the purposes of the Act, has only 5 members: Pinky Thompson is the chairman; he represents *Alu Like Inc.*, a Native Hawaiian service and training organization; Nanette (Mossman) Judd represents *E Ola Mau*, an organization composed primarily of Native Hawaiian health professionals; Tommy Kaulukukui represents the *State Office of Hawaiian Affairs;* Fern Clark comes from the *Office of Hawaiian Health of the State Department of Health;* and Gladys Brandt speaks for the *University of Hawaii.*

Notable in an organization that is to plan health care is the absence of a physician [not even a *Kahuna Lapaau!*/Ed]. We trust that professional health care advice is sought and listened to (namely: George H. Mills MD).

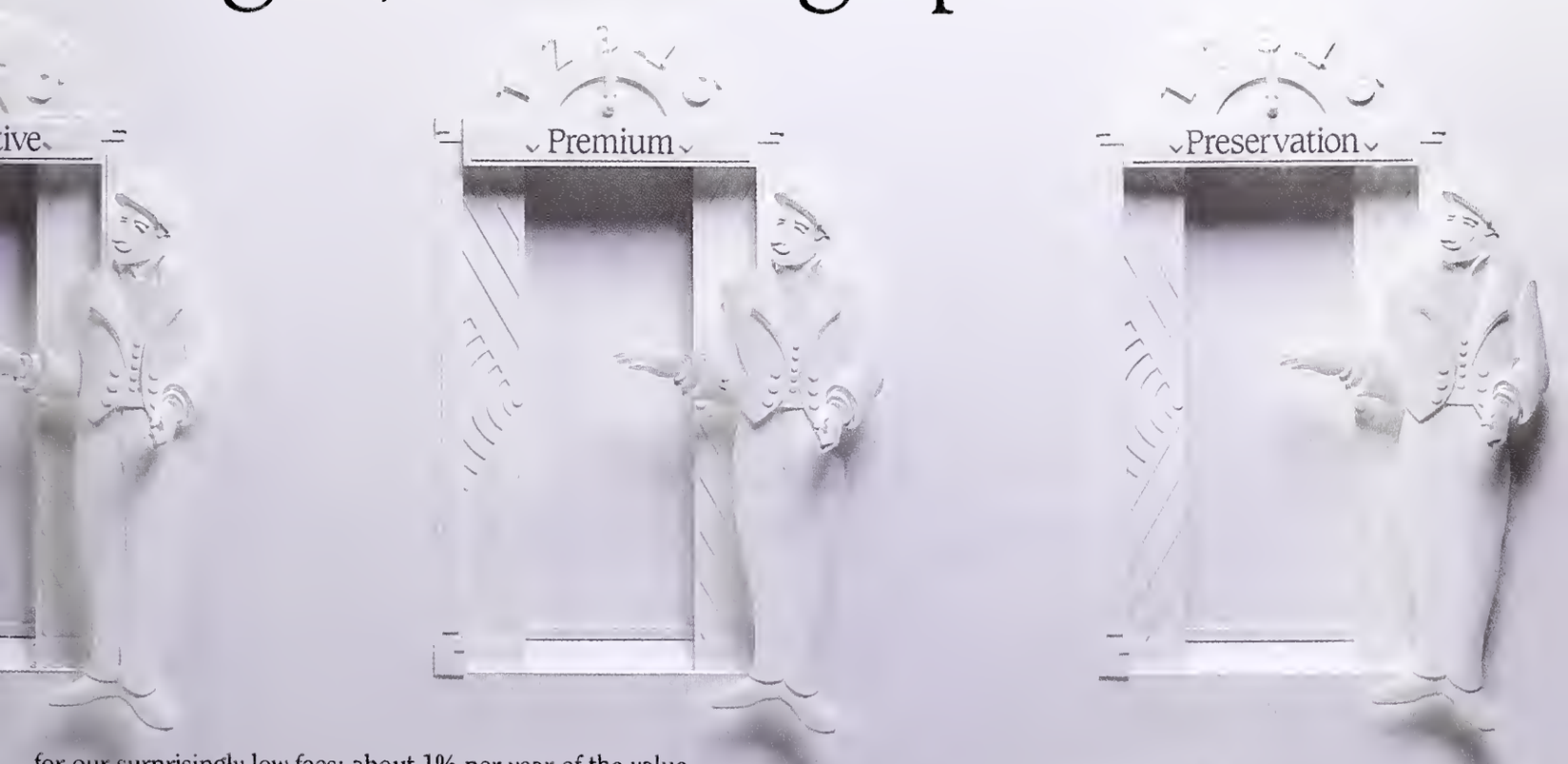
The above 5 organizations of Native Hawaiians in *Papa Ola Lokahi* were incorporated in February 1989 and the Hawaii State Legislature appropriated start-up funds for planning as of 1 July 1989. Federal funds became available in FY90, ie in October 1989, initially for *Papa Ola Lokahi's* organizing and planning process to the tune of $100,000 for its administrative efforts and $700,000 for the development of the Master Plan (the total appropriation is $2.6 million the first year, $6 million the second year and $11 million the third year).

*Papa Ola Lokahi* has already drafted a Master Plan for circulation and discussion. Dr. Mills has studied it in depth and has commented on it. He is much concerned, as should be all the physicians of Hawaii, about how the plan will meld into the existing health care system, especially with the introduction of the State Health Insurance Program (SHIP) enacted into law by the Hawaii State Legislature earlier this year.

Objectively, we see the importance of the mandated educational emphasis on "health promotion and disease prevention," but that lies more in the purview of our existing systems of education and public health. Of course, the HMA can offer the assistance of its members to help "spread the word"; this approach to the community of Native Hawaiians is not much different from what this community of ours has been concerned with over the years. If there is any apparent discrimination in the past, or any impediment to accessibility to the health care system facing the Native Hawaiians, it may be

*(Continued on page 420)* ▶


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# Resolution No. 19
# Re: Naming HMA Conference Room

WHEREAS, the Hawaii Medical Association recognizes that George Hiilani Mills MD, has dedicated 40 years to the medical profession and organized medicine. He has been foremost in his service not only in medicine, but in all areas of life.

WHEREAS, Dr. Mills has participated in organized medicine as the only Native Hawaiian to serve on the American Medical Association Board of Trustees, served as Hawaii's delegate and alternate delegate, as a member of the Council on Legislation, the Judicial Council, the Executive Committee of the Board, President of AMA-ERF, recipient of the prestigious Benjamin Rush Award for outstanding community service, past president of the Hawaii Medical Association, past president of the Honolulu County Medical Society, Commissioner for Community and Professional Relations and Peer Review, as well as actively participating on HMA and HCMS committees over the past years, recipient of the HMA Physician of the Year Award, member of the Hawaii Foundation for Medical Care, and Hawaii Society of Internal Medicine.

WHEREAS, Dr. Mills' community service has been exemplary. He served as Hawaii State Senator, was awarded the Oahu Health Council Distinguished Service Award; the Honolulu Chamber of Commerce named him Medical Father of the Year; West Honolulu Rotary honored him with the David Malo award for outstanding service; and the Lei Hulu Mamo Award, the Hawaiian Civic Political Action Committee honor bestowed on a person of native Hawaiian ancestry for a lifetime contribution to politics in the state of Hawaii. Dr. Mills formed the Hawaiian Civic Political Action Committee based on a structure of AMPAC, and served as president.

WHEREAS, Dr. Mills has worked diligently to carry out his ideas for utilization and peer review, cost containment, coalitions with business, quality of care studies, and the Native Hawaiian Health Care Act. Hawaii Medical Association is proud of Dr. Mills for his ability, his dignity, his caring ways, his humanitarian beliefs and his values. Now, therefore, be it

RESOLVED, that the Hawaii Medical Association honor Dr. Mills by naming the makai conference room the George H. Mills MD Conference Room.

CALVIN C.M. KAM, MD

*This was adopted unanimously by a standing ovation at the House of Delegates of the HMA at its 134th annual meeting in Honolulu on 14 October 1990.



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# Highlights of the HMA House of Delegates Meeting October 12 - 14, 1990

The meeting was held at the Ilikai Hotel in Waikiki. The 3 morning scientific sessions, the 134th such since the Association was chartered by King Kamehameha III, were excellent. The House of Delegates met on the afternoons of Friday and Sunday, received extensive reports from its commissions and committees, voted on the distilled reports of its Reference Committees, elected its new officers and conducted other required business of the corporation.

Present at the meeting were: Drs. J. Kim, J. McDonnell, A. Kunimoto, M. Shirasu, J. Chang, F. Holschuh, S. Wallach, R. Weiner, D. Heeney, M. Nichols, R. Ando, E. Bade, R. Goodale, T. Smith, D. Fu, H. Percy, K. Brady, H.K.W. Chinn, M.L. Hefley, A. Jacang, W. Young, P. Blanchette, P. DeMare, J. Spangler, S. Allison, D. Bell, II, J.A. Burden, A. Catts, W.W.Y. Chang, G. Goto, M. Hanlon, C.C.M. Kam, J. Lumeng, G. Mills, C. Sia, R. Stodd, R. West, K. Kurohara, R. Lee-Ching, L. Minaai, S. Ruben, P. Kim, L. Magnussen, G. McKenna, S. Boren, A. Don, J. Kamaka, W. Kepler, B. Shitamoto, M. Joshi, M. Cheng, J. Sbarra, E. Adams, L. Au, J. Callan, M. Chen, W. Dang, Jr., R. DeJournett, D. DesJarlais, G. Faulkner, D. Fitzpatrick, J. Fong, H.H.C. Fong, J. Frohlich, N. Fujita, F. Gilbert, G. Greenley, J. Greig, W. Hartman, R. Hicks, E. Ho, L. Jones, S. Levine, S. Matsuda-John, J. Miller, M. Mitsunaga, P. Pang, J. Penoff, J.I.F. Reppun, N. Scully, G. Soon, K. Teruya, R. Stevens, B. Wong, M. Cooper, C. Lehman, J. Lewin, C. Miura, J. Ramseyer, L. Siri-Hundahl, K. Thorburn, C. Wong, J. Nakama, and medical student C. Hill. Also present were legal counsel V. Woo, CPAs M. Ichikawa and O. Fukumoto. HMA staff present were: J. Won, N. Jones, B. Kendro, J. Asato, L. Tong, J. Estioko, P. Kawamoto, C. Sugita, A. Rogness, K. Hamada, and M. Lindsey-recording secretary. Special guests present were: Ms. N. Kintzel, Medical Society Liaison-AMA, and Mr. R. Seehusen, Executive Director, Idaho Medical Association.

American Medical Association president-elect John Ring graced the meeting with his presence. He addressed the House at its opening on Friday (we are hoping he will send us a copy of his remarks in order that we can publish them in the *Journal*). The following are notes taken at the time:

> The heart, soul and presence of the AMA representing organized medicine is to preserve the professionalism of the practice of medicine. Medicine faces the real threat, imposed by government and parts of society, that would reduce the stature of physicians to that of trade vendors and entrepreneurs labeled "providers" — to the point where we indeed begin to fit the label. At stake is the freedom of professionalism.
>
> The word "patient" and the word "compassion" have the same derivation: The bearing and sharing of a burden. Therefore, we physicians must pull together, and with and for our patients, resist this threat forcefully.

John Ring spoke again the morning of the third day of the scientific sessions as one of the scheduled speakers. That session was given the topic: "Health Care Policies in the '90s: People, Politics and Issues." As the fourth speaker on the program, he chose as his topic "The AMA Health Care Policy Agenda."

In the terms of the National Budget, Ring said the AMA felt that "our patients deserve better" [it turns out that both Medicare and Medicaid suffered some cuts in the budget finally passed by the Congress and approved by the President/Ed]. The AMA has proposed a) that the benefits of RBRVS be preserved, b) that mandatory assignment be opposed, c) that DRGs be eliminated as well as the federal pressure favoring HMOs, d) that expenditure targets (ETs) and e) balanced billing also be done away with.

The AMA's political agenda has 16 points, among them:

1. All Americans should have access to health insurance;
2. Patients should have the freedom to choose their physicians;
3. The primacy of input from the profession on health care planning needs to be emphasized;
4. The funding of Medicaid should be increased to cover more than the 40% of the poor that it now covers;
5. Risk pools for medical insurance at the state level need exploring;
6. The cost of litigation for tort needs to be reduced;
7. The AMA should oversee the matter of medical ethics;
8. The "hassle factor" needs to be reduced.

When he was asked to comment on the Data Bank, John Ring stated the AMA supported the idea in principle but opposed the provisions for tracking the dollar awards. The AMA does consider the Act to be "neither civil nor just." The elements of privacy and respect are lacking.

The House then honored our own George Starbuck, 77-years-old and a retired pediatrician, as the 30th *Physician of the Year* and presented him with the A.H. Robins award for outstanding community service, for his life-long efforts to improve the health of the young and very young, and particularly for his unflagging efforts at this year's State Legislature that enacted the bill to offer street drug-users free sterile syringes and needles in exchange for old, unsterile ones and also in exchange for listening to educational advice on the hazards of i.v. drug use, the likelihood of contracting AIDS, etc.

Also honored by a special resolution offered by Calvin Kam and unanimously approved by the House by standing ovation, was George Mills (the resolution has been reprinted in full in this issue of the *Journal;* a few of George's accomplishments are further revealed in the editorial on *Papa Ola Lokahi).*

Speaker Richard Ando graciously called for a recess after each award in order to allow well-wishers to congratulate the awardees.

There were 3 Reference Committees (RC) to which nearly all matters were referred. HMA members, and others by dispensation, had the opportunity to present testimony and express their opinions at the hearings they held.

The *RC on Internal Affairs and By-laws,* chaired by Myron Shirasu, with members Elizabeth Adams, Ernest Bade and Richard Goodale (staff secretary Angela Rogness), was first on the agenda. Speaker Ando conducted the proceedings.

*Resolution No. 3* proposed by Thomas Au, chairman of the HMA Peer Review Committee, resolved that the HMA adopt the changes in the By-laws covering peer review (based on recent state statutes and new federal peer review regulations).

The approval of the revision of the By-laws took a long time. Section 2.06 *Regarding Professional Review Actions* was hammered out to everyone's satisfaction. Calvin Kam and the entire By-laws Committee, as well as Thomas Au and his committee, were commended for doing a long and difficult job in advance. The first level will be the purview of the *Investigative Committee* of 18 members appointed to staggered terms of 3 years by the President with the approval of the Council. The second level will be the *Peer Review Committee* of 12 members to be elected by the House for staggered terms of 3 years. The third level will be the HMA Council. No member may serve on more than one of these 3 levels in the instance of a particular case at issue, nor may he serve if a conflict of interest may be apparent. There is a fourth level of appeal — to the AMA. The decision pro or con at the second and third levels must be by a 2/3 vote of the members of that committee or panel.

*(Continued)* ▶

When this portion of the proceedings was completed, the Speaker called for nominations to the Peer Review Committee as per the approved By-laws revision above. By secret ballot, the HoD elected Fortunato Elizaga, James Mertz, Ronald Peroff and Sakae Uehara to 3-year terms; Alfred Liu, Bill Sage, Vernon Waite and Walter Young to 2-year terms; and Bernice Coleman, Michael Dang, Edgar Ho and William Moore to 1-year terms on the committee.

The HoD approved *Resolution No. 10* proposed by medical student member Lance Kurata, to establish an HMA Medical Student Section and directed the By-laws committee to delineate appropriate implementation.

The HoD also approved *Resolution No. 11* proposed by Herbert K.W. Chinn, to establish a Young Physicians Section with a similar directive to the By-laws committee.

The *RC on Public Health and Legislation,* chaired by James Lumeng, with members Patricia Blanchette, Peter Kim and Calvin Miura (staff secretary was Karen Hamada), were called up to the dais by Vice-speaker Fred Holschuh, presiding.

The HoD approved the RC's recommendation that the Annual Meeting and Arrangements Committee consider "Native Hawaiian Health — Practices and Current Problems" as one of the topics at the 1991 Annual Scientific Session.

The HoD referred *Resolution No. 5,* proposed by Stephen Kemble, dealing with Managed Care in Hawaii as amended by the RC, back to appropriate committees of the HMA for further consideration.

*Resolution No. 6* on Drug Testing of Physicians, proposed by Calvin Kam, was referred to three committees: Peer Review, Committee of Physicians' Health, and Medical, Ethical, Moral and Legal Concerns.

*Resolution No. 7* proposed by Steven Moser, recommending that HMA call for an independent, non-governmental review of the JACADS chemical weapons incineration project on Kalama (Johnston Atoll) less than 1,000 miles SE of Hawaii, was adopted by the HoD with minor revisions.

The HoD did the same with *Resolution No. 8,* also proposed by Steve Moser, on Geothermal Development in the State of Hawaii; it was adopted as amended by the RC and further amended by vote of the delegates to state that "Hawaii ambient air standard for hydrogen sulfide" should not only equal but even be stricter than California's 25 ppb time-weighted average. Delegate Jack Lewin, the State Director of Health, spoke in favor of that amendment.

*Resolution No. 17* proposed by Fred Reppun pertained to the formation of HMA Clinic or Clinics for the poor. It was amended by the RC "to study the feasibility to provide additional medical service to the poor and near poor" and this was approved by the HoD.

Vice-speaker Fred Holschuh continued the proceedings by calling up the third and last *RC on Finance & Miscellaneous Business* chaired by Jeanette Chang; members included Allan Kunimoto, Carl Lehman and Michael Nichols (staff secretary assigned was Cheryl Sugita).

The Report of President John HC Kim was approved and his efforts on behalf of the HMA the past year acclaimed by prolonged applause.

*Resolution No. 1* on the slowness of AMA mailings to Hawaii, proposed by Russ Stodd, was approved with minimal amendments. President-elect of the AMA John Ring was present and was granted the privilege of the floor to respond on his request, promising that he would personally explore a remedy.

*Resolution No. 2* in which Fred Reppun proposed the placement of the HMA logo on the bare wall of our home, above the Chevron station, was not recommended for approval by the RC because it was in opposition to Hawaii's sign law. The HoD went along with the RC on this (auwe!).

Maxwell Cooper's *Resolution No. 12* on Guidelines for Out-patient Procedures was amended to state that the HMA should establish these rather than the DoH. This was approved as amended.

Max' *Resolution No. 13* on Truth in Advertising was simplified by the RC and adopted by the House to state: A physician must avoid false or misleading advertising of board certification.

*Resolution No. 14* introduced by Alan Hawk was approved by the House as he stated it, namely for the HMA to promote education of the public on how to get the most value for the medical buck.

On the other hand, the House did not go along with *Resolution No. 15* proposed by Steven Wallach on the matter of dues rates for military physician members, but referred it to the By-laws committee to review existing policy.

The Board of Directors of the HMA Development Company Ltd. offered *Resolution No. 18* seeking Authority to Sell the 1360 South Beretania Building owned by HMA Partners. The RC amended the Resolution, deleting the terms and conditions; the House amended it further to delete the minimum purchase price. This was then adopted. Ordinarily, this would have by-passed the RC and gone directly to the House.

Speaker Ando then took over the proceedings to hear the report of the Nominating Committee directed to the House by its chairman Paul DeMare. Nominations had been opened to the floor. Those unopposed were elected by unanimous vote of the secretary: Stephen Wallach as President-elect, Andrew Don as Secretary, Russ Stodd as Delegate to the AMA for a 2-year term, Alternate Delegate to the AMA John McDonnell and Stephen Wallach; Dick Ando was re-elected Speaker of the House and Fred Holschuh as Vice-speaker. Helen Percy was elected Councilor from Maui. Voting by secret Ballot was required to choose the Councilors from Honolulu, after the nominations fromthe floor were closed, the winners being Kalani Brady, Herbert K W Chinn, Henry H C Fong, Myron Shirasu and Wes Young. Elected was Jenny Nakama for 1 year as Resident Physician Delegate. By secret ballot from a list of 5 medical student members, Cathy Hill was elected to serve for 1 year as the Medical Student Delegate.

Speaker Ando called for nominations from the floor for the 1991 Nomating Committee. After the nominations were closed, the House in a secret ballot elected the following for a one year term:

| | |
|---|---|
| Kevin Kurohara | Hilo |
| Richard Goodale | Kauai |
| Helen Percy | Maui |
| Theresa Smith | Kona |
| William Dang | Honolulu |
| Henry Fong | Honolulu |
| Myron Shirasu | Honolulu |
| John Spangler | Honolulu |
| Wes Young | Honolulu |

Honored by the HoD was Legislator of the Year - Sen. Richard Matsuura.

Exhibit Winners were: William Kepler, MD - Grand Prize; Herbert K.W. Chinn, MD and Myron Shirasu, MD - First Place Tie.

Golf Winners: HMA Low Net - William Dang (Robert Miyamoto, MD Perpetual Trophy); HMA Low Gross - R. Resnick, MD (John Felix, MD Perpetual Trophy); Low Net - John Popovich (George Mills, MD Individual Trophy for Medical Service Reps)

Tennis Winners: Mixed Doubles - First Place - Virginia Camara; Second Place - Brian Martin, MD; Third Place - James Lumeng, MD. Mens A - First Place - Lee Au, MD; Second Place - Fernando Dulay, MD; Third Place - Jorge Camara, MD. Mens B - First Place - Edgar Ho, MD; Second Place - Joe Kamaka, MD; Third Place - Ken Ing.

The official minutes of the meeting recorded by M. Lindsey are kept at the offices of the HMA and are available for review by members who wish to do so.

Reported by J I Frederick Reppun MD,
Editor HMJ

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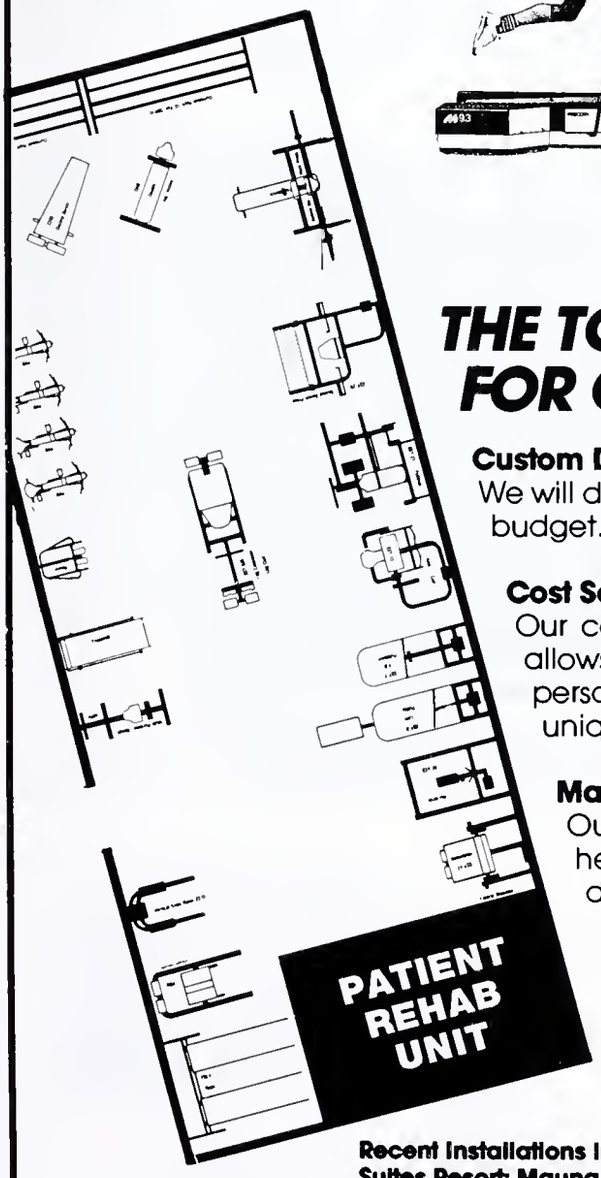
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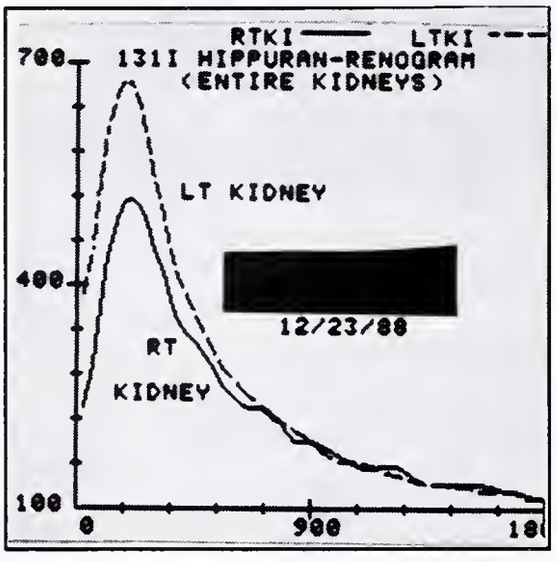
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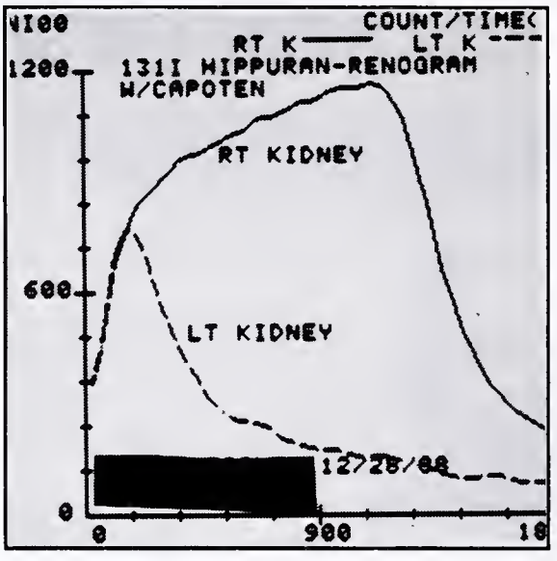
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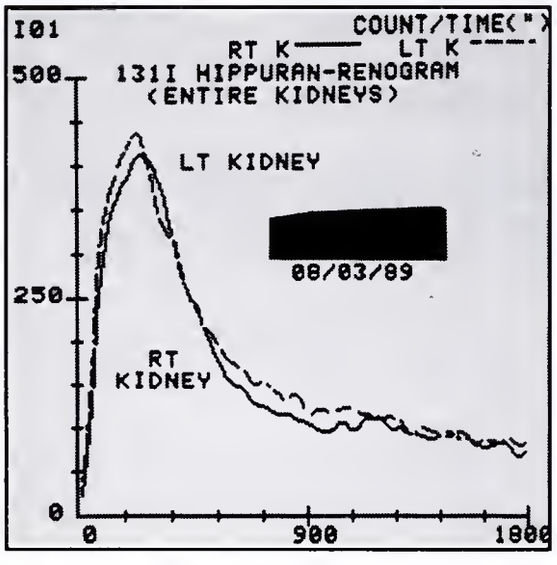
**Clinical History: 43 year old female with headache, accelerating hypertension, and mild azotemia.**



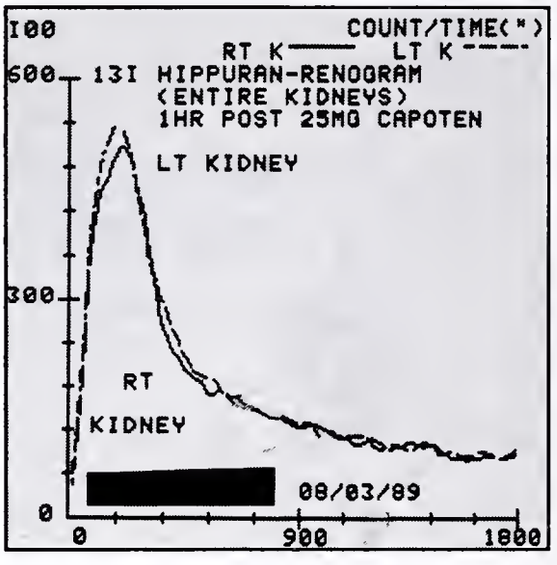

1. Baseline renogram without captopril shows slightly reduced function and mild delay in urinary clearance on the right.




2. Captopril renogram prior to angioplasty. Note exaggerated delay in urinary clearance induced by captopril on the right, consistent with renovascular hypertension. Arteriography showed severe fibromuscular dysplasia.




3. Renogram without captopril following angioplasty of the right renal artery. Note symmetrical kidney function.




4. Captopril renogram after angioplasty shows no further evidence for renovascular hypertension.


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# The Clinical Significance of Microalbuminuria in Diabetes Mellitus

Michael H. Nagoshi MD*
Willard Y. Miyahira MD**

*Diabetic nephropathy is the major cause of death in patients with type I diabetes mellitus and accounts for one forth of all patients with end stage renal disease. Once the renal disease becomes established, glycemic control does not significantly delay its progression. Microalbuminuria has been shown to be an early marker for the subsequent development of diabetic nephropathy. Recent evidence suggests that intensive therapy started during this subclinical phase might delay the progression of diabetic nephropathy to renal failure. Methods for measuring microalbuminuria are now commercially available.*

## Introduction

Diabetic nephropathy is the major cause of death[1] in patients with type I diabetes mellitus and accounts for one forth of all patients with end stage renal disease[2]. Clinically significant renal disease occurs in 30 to 40 percent of type I diabetics who have the disease for 20 to 30 years[3]. Once the renal disease becomes established, glycemic control does not significantly delay its progression[4,5]. However, before clinical proteinuria (dip-stick positive) appears, there is a period of increased urinary albumin excretion (microalbuminuria) which is not detectable by dipstick[6]. Microalbuminuria has been shown to be a marker for the subsequent development of diabetic nephropathy[7]. If intensive therapy started during this subclin delay the progression of diabetic nephropathy to renal failure, then overall mortality from diabetes might be reduced. Methods for measuring microalbuminuria are now commercially available. Summarized here is a review of recent literature and suggestions for utilization of the test.

## Diabetic Nephropathy

Asymptomatic albuminuria is the hallmark of diabetic nephropathy and precedes renal failure in most patients. Persistent clinical albuminuria is a late phase of diabetic renal disease which is almost always preceded by a period of intermittent albuminuria and probably an even earlier period of microalbuminuria[8]. The factors that determine the transition from microalbuminuria to overt clinical albuminuria are still unclear. The appearance of clinical proteinuria is followed by a progressive and relentless decline in glomerular function[6]. This rate of deterioration varies among patients but is linear over time[9].

Proteinuria is also associated with prognosis. Both Type I[3,10,11] and Type II[12] diabetics with persistent proteinuria have a higher incidence of hypertension and shorter average survival than those without.

## Microalbuminuria

The term microalbuminuria was first used in 1982 to define abnormally elevated albumin excretion without clinical proteinuria as opposed to macroalbuminuria which is detectable by dipstick method (table 1)[13,14]. There has been disagreement regarding the level of albumin excretion which constitutes microalbuminuria. In 1985, researchers from three major diabetes centers met at "The Gentofte Convention on Microalbuminuria" and, by consensus, agreed to define microalbuminuria as a urinary albumin excretion rate of greater than 20 mcg/min but ≤ 200 mcg/min on two of three urine samples collected over a six month period[15,16]. Parving et al[17] studied 957 patients with type I diabetics for five or more years with onset before 41 years of age. Twenty-two percent of patients had microalbuminuria. The presence of microalbuminuria correlated with earlier onset and longer duration of diabetes. The

**TABLE 1:**
**Classification of Urinary Excretion Rates in Diabetes Mellitus**

| ALBUMINURIA | URINARY ALBUMIN EXCRETION | PROTEINURIA DIPSTICK METHOD |
|---|---|---|
| normo- | <30mg/24h | negative |
| micro- | 31-299mg/24h | negative |
| macro- | >300mg/24h | positive |

*(Continued)* ▶

* Assistant Professor of Medicine
** Associate Professor of Medicine
University of Hawaii, Dept. of Medicine
Queen Emma Clinics, The Queens Medical Center

Send correspondences to:
Michael H. Nagoshi M.D.
University of HI, Dept of Medicine
1356 Lusitana St. 7th floor
Honolulu, HI 96813

**TABLE 2:**
**Relationship between Urinary Albumin Excretion Rates and Diabetic Complications[17]**

| Albuminuria | Arterial Tension | Proliferative Retinopathy | Blindness | Abnormal Vibratory Sensation |
|---|---|---|---|---|
| normo- | 19% | 12% | 1.4% | 21% |
| micro | 30% | 28% | 5.6% | 31% |
| macro- | 65% | 58% | 10.6% | 50% |

prevalence of microalbuminuria leveled off at 20-25% between 15 to 34 years duration of diabetes.

Several studies show that microalbuminuria predicts development of diabetic nephropathy in both type I[8,11,18] and type II diabetics[12]. Viberti et al[8] showed that for type I diabetics, the risk of developing overt proteinuria increased from 3.6% for patients with normal albuminuria to 87.5% for those with microalbuminuria over 14 years of follow up. This risk increases from 5 to 22% for type II patients[12]. The risk of progressing to end-stage renal disease increases from 4% in type I diabetics with normoalbuminuria to 80% for those with microalbuminuria[11,15]. The amount of albuminuria correlates with the presence of arterial hypertension, proliferative retinopathy, blindness, abnormal vibratory sensation (table 2)[17]. The presence of microalbuminuria also correlates with poorer survival. Viberti et al[8] found a 24% decrease in 14 year survival rates for type I diabetics with microalbuminuria. Mogensen[12] showed that for type II diabetics with the disease for more than 11 years, 10 year survival rates fell from 57% for those with normoalbuminuria to 4.5% for those with microalbuminuria.

### Early intervention

Early diagnosis is only important if early treatment might lead to reduced morbidity and mortality. Several recent studies suggest that glycemic control may be important in preserving glomerular function and reducing microalbuminuria[19,20]. Holman et al[21], showed that intensive diabetic therapy reduced the deterioration in creatinine clearance in type I diabetics with mild renal impairment. Chase et al[22] showed that Type I diabetics with poor long-term glycemic control (as measured by glycohemoglobin values) are 3.4 times as likely to have microalbuminuria compared to those with good control. Recent studies have shown that the progression of microalbuminuria is reduced with continuous subcutaneous insulin infusion compared with conventional therapy[12,23,24]. However, whether this reduction in microalbuminuria will result in prolonged survival is yet to be determined.

Hypertension is an early feature of diabetic nephropathy and may accelerate the glomerular lesions. The decline in glomerular function and the degree of proteinuria can be reduced by as much as 60% with antihypertensive therapy[25]. Persistent microalbuminuria has been shown to be reduced by angiotensin converting enzyme inhibitors even in normotensive patients[26]. However, the effect of antihypertensive therapy initiated during the silent stage of microalbuminuria on overall survival is yet to be determined.

The role of dietary intervention is also controversial. Low protein diets have been shown to slow the decline in renal function and to increase survival in patients with chronic renal failure[27,28]. Protein restriction can also reduce microalbuminuria although long term studies are not available[29].

**TABLE 3:**

**Other Causes of Microalbuminuria[12,16]**

| |
|---|
| Exercise |
| Poor diabetic control |
| Non-diabetic renal or systemic diseases |
| Urinary tract infection |
| Hypertension |
| Water loading |

### Measuring microalbuminuria

Test kits using immunocolorimetric methods are now commercially available (Microalbutest™). Urine specimens should be obtained after patients have been recumbent overnight[30]. At least three specimens should be performed sequentially over a six month period[14,15,31]. The sensitivity of this assay is between 75 to 100% as compared to radioimmunoassay measurements of albumin concentration. The specificity is reported to be 83 to 91%[32,33]. Several conditions may give false positive results (table 3).

### Conclusion

Diabetic nephropathy is a serious complication of long standing diabetes. Microalbuminuria is an excellent predictor of future diabetic nephropathy. The elevated albumin excretion rate which characterizes the phase of microalbuminuria appears to be reversible by strict metabolic control, suggesting that intensive therapy for a prolonged period might delay or even prevent the development of persistent proteinuria and renal insufficiency[21]. In addition, aggressive blood pressure control and dietary protein restriction, which has already been shown to benefit patients with overt nephropathy, may be more effective if started when patients are in the subclinical phase.

Clinicians could benefit from knowing early, in the microalbuminuria stage, which patients are at risk of developing nephropathy and might benefit from intensive metabolic and blood pressure control. The presence of microalbuminuria could be used as an incentive to encourage patients to maintain strict glycemic control[14]. However studies are needed to define the natural history of microlbuminuria and the effect of early intervention on overall survival [34,35,36]. ■

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*(Continued)* ▶

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## EDITORIALS *(Continued from page 409)*

more of a factor on their part, either cultural, economic or social.

The matter of establishing primary health care centers (9 of them at the most) may be much more difficult to implement; it smacks somewhat of establishing another tier of health care (we already have a worry over the tier system of care evolving on the Mainland, more than it is in Hawaii), ie of a different quality. This is not desirable. However, if this mandate in the Act can be stretched to allow Health Care Centers or Organizations to farm out services to existing primary care facilities, then it might not be so difficult to implement the Act. *Papa Ola Lokahi* would do well to avoid discrimination in reverse to raise its ugly head.

We are not as concerned as George is over the absence of direction in providing medical services beyond "primary care." To be sure, that is the expensive part and federal funding may be in very short supply in the future, considering this country's present fiscal crisis and commitments in the rest of the world. We here in Hawaii have a brand new SHIP as a pilot program. We might be able to learn how that will work out; the lessons therefrom may then be applied to *Papa Ola Lokahi's kuleana.*

In the meanwhile, let the members concerned with the role HMA should play in resolving the Native Hawaiian's statistically-determined ill-health as a race, step up and help George Mills.

May we repeat once again that the Hawaii Medical Association is willing and able to help *Papa Ola Lokahi* whenever we are asked to do so.

J.I. Frederick Reppun MD
Editor

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**1.** Data on file, G.D. Searle & Co. **2.** 1988 Joint National Committee: The 1988 report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure. *Arch Intern Med* 1988;148:1023-1038.


**BRIEF SUMMARY**

**Contraindications:** Severe LV dysfunction (see *Warnings*), hypotension (systolic pressure < 90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no pacemaker is present), 2nd- or 3rd-degree AV block (if no pacemaker is present), atrial flutter/fibrillation with an accessory bypass tract (eg, WPW or LGL syndromes), hypersensitivity to verapamil.

**Warnings:** Verapamil should be avoided in patients with severe LV dysfunction (eg, ejection fraction < 30%) or moderate to severe symptoms of cardiac failure and in patients with any degree of ventricular dysfunction if they are receiving a beta-blocker. Control milder heart failure with optimum digitalization and/or diuretics before Calan SR is used. Verapamil may occasionally produce hypotension. Elevations of liver enzymes have been reported. Several cases have been demonstrated to be produced by verapamil. Periodic monitoring of liver function in patients on verapamil is prudent. Some patients with paroxysmal and/or chronic atrial flutter/fibrillation and an accessory AV pathway (eg, WPW or LGL syndromes) have developed an increased antegrade conduction across the accessory pathway bypassing the AV node, producing a very rapid ventricular response or ventricular fibrillation after receiving I.V. verapamil (or digitalis). Because of this risk, oral verapamil is contraindicated in such patients. AV block may occur (2nd- and 3rd-degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema and/or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with verapamil.

**Precautions:** Verapamil should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Verapamil may decrease neuromuscular transmission in patients with Duchenne's muscular dystrophy and may prolong recovery from the neuromuscular blocking agent vecuronium. It may be necessary to decrease verapamil dosage in patients with attenuated neuromuscular transmission. Combined therapy with beta-adrenergic blockers and verapamil may result in additive negative effects on heart rate, atrioventricular conduction and/or cardiac contractility; there have been reports of excessive bradycardia and AV block, including complete heart block. The risks of such combined therapy may outweigh the benefits. The combination should be used only with caution and close monitoring. Decreased metoprolol clearance may occur with combined use. Chronic verapamil treatment can increase serum digoxin levels by 50% to 75% during the first week of therapy, which can result in digitalis toxicity. In patients with hepatic cirrhosis, verapamil may reduce total body clearance and extrarenal clearance of digitoxin. The digoxin dose should be reduced when verapamil is given, and the patient carefully monitored. Verapamil will usually have an additive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after verapamil administration. Concomitant use of flecainide and verapamil may have additive effects on myocardial contractility, AV conduction, and repolarization. Combined verapamil and quinidine therapy in patients with hypertrophic cardiomyopathy should be avoided, since significant hypotension may result. Concomitant use of lithium and verapamil may result in a lowering of serum lithium levels or increased sensitivity to lithium. Patients receiving both drugs must be monitored carefully. Verapamil may increase carbamazepine concentrations during combined use. Rifampin may reduce verapamil bioavailability. Phenobarbital may increase verapamil clearance. Verapamil may increase serum levels of cyclosporin. Concomitant use of inhalation anesthetics and calcium antagonists needs careful titration to avoid excessive cardiovascular depression. Verapamil may potentiate the activity of neuromuscular blocking agents (curare-like and depolarizing); dosage reduction may be required. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. Pregnancy Category C. There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. Verapamil is excreted in breast milk; therefore, nursing should be discontinued during verapamil use.

**Adverse Reactions:** Constipation (7.3%), dizziness (3.3%), nausea (2.7%), hypotension (2.5%), headache (2.2%), edema (1.9%), CHF, pulmonary edema (1.8%), fatigue (1.7%), dyspnea (1.4%), bradycardia: HR < 50/min (1.4%), AV block: total 1°,2°,3° (1.2%), 2° and 3° (0.8%), rash (1.2%), flushing (0.6%), elevated liver enzymes. The following reactions, reported in 1.0% or less of patients, occurred under conditions where a causal relationship is uncertain: angina pectoris, atrioventricular dissociation, chest pain, claudication, myocardial infarction, palpitations, purpura (vasculitis), syncope, diarrhea, dry mouth, gastrointestinal distress, gingival hyperplasia, ecchymosis or bruising, cerebrovascular accident, confusion, equilibrium disorders, insomnia, muscle cramps, paresthesia, psychotic symptoms, shakiness, somnolence, arthralgia and rash, exanthema, hair loss, hyperkeratosis, macules, sweating, urticaria, Stevens-Johnson syndrome, erythema multiforme, blurred vision, gynecomastia, increased urination, spotty menstruation, impotence.

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# Office screening of pituitary reserve

Werner G. Schroffner, MD*

*Deficiency of the anterior lobe of the pituitary due to disease in the pituitary-hypothalamic area may involve any or all pituitary hormones to varying degrees but, usually, growth hormone (GH) and gonadotropins (FSH and LH) are more commonly affected than thyrotropin (TSH), corticotropin (ACTH) and prolactin. Of these 6 hormones TSH and ACTH are of life sustaining importance.*

A chief principle in general endocrine and specific pituitary function is that of negative (or positive) feedback. Accordingly, pituitary tropic hormone levels are normally well suppressed by appropriate concentrations of the product of their respective target glands, and single pituitary hormone measurements cannot distinguish between normal and deficient function. On the other hand, the negative feedback principle allows us to examine tropic hormones in the context of their target gland function. A clearly deficient target hormone level (e.g. thyroxine) calls for a rise in the tropic hormone concentration (e.g. TSH) unless the pituitary is failing. When baseline hormone levels are equivocal, and hypopituitarism is suspected, provocative tests of pituitary reserve are indicated.

The initial selection of endocrine tests to evaluate or rule out pituitary deficiency in an ambulatory patient should achieve a combination of goals to benefit the patient: Good diagnostic yield, low risk, expedience, low cost and comfort and convenience for the patient. The following is a brief review of stimulating and inhibiting factors for pituitary hormones, and a discussion of recommended test procedures.

## Growth Hormone

Normal adult GH levels are less than 5 ng/ml. The effects of growth hormone are mediated by hepatic polypeptides called somatomedins. Physiological stimuli for GH include stage 3-4 sleep, exercise, stress, hypoglycemia and protein intake[1,2]. The stimuli are mediated through neurotransmitters norepinephrine (alpha-receptor stimulation), dopamine and serotonin. Among recognized inhibiting factors are hyperglycemia, beta-receptor stimulation and the hypothalamic hormone somatostatin. Normal and GH deficient individuals may have similar basal GH levels. Therefore, provocative tests to assess the GH reserve are necessary in the evaluation of short stature or hypopituitarism[3,4,5]. Growth hormone-releasing hormone (GRH), to stimulate GH, has been used with good results but is not readily available commercially. The following procedures and agents challenge both GRH and GH reserves: Insulin-induced hypoglycemia, arginine, clonidine (alpha 2 adrenergic stimulation), glucagonpropranolol, L-dopa and L-dopa-propranolol. During any of these challenges GH is expected to rise normally to at least 7 ng/ml.

Insulin-induced hypoglycemia affords the opportunity of assessing both GH and ACTH reserves, but hypoglycemia intended to be less than 40 mg/dl, in order to provide adequate stimulation, makes the test less attractive as an easy, first-line approach. Arginine stimulation requires a 30-minute i.v. infusion, and is not always reliable in men, it has been more successful with estrogen-priming. Glucagon needs to be injected as well, and causes nausea, vomiting, weakness and confusion.

The L-dopa-propranolol test utilizes dopaminergic stimulation of GRH enhanced by beta-adrenergic blockade[6]. In a fasting state, L-dopa 500 mg (500 mg/1.73 sqm BSA) plus propranolol 30-40 mg (0.75 mg/Kg) are administered orally, and blood samples for GH obtained at 0, 60, 75, and 90 minutes. The patient is kept supine throughout the test, which minimizes nausea and dizziness. Peak GH levels are observed between 60 and 90 minutes after L-dopa-propranolol. Priming doses of L-dopa, 250 mg/1.73 sqm administered for 1 or more days before the test, often improve GH responses. The test is reliable, simple and convenient. However, obesity and hypothyroidism blunt GH responses[7,8]. In order to verify GH deficiency, unresponsiveness to several different stimulation tests must be demonstrated.

## Gonadotropins

The simplest way of excluding FSH/LH deficiency would be to find elevated gonadotropin levels in a clearly postmenopausal woman. Similarly indicative of normal gonadotropic function, is a normal menstrual history with added evidence of ovulation, i.e. postovulatory concentrations of progesterone (up to 20 ng/ml) obtained in the middle of the luteal phase (day 19-22). Normal adult male FSH and LH levels are 3-13 mIU/ml and 4-20 mIU/ml respectively. Normal adult female FSH levels are approximately 4-15 mIU/ml in

*(Continued)* ▶

* Endocrinologist
QPOB, Honolulu
Associate Professor
John A. Burns School of Medicine,
University of Hawaii

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**Brief Summary.**
**Consult the package literature for prescribing information.**
**Indication:** Lower respiratory infections, including pneumonia, caused by *Streptococcus pneumoniae, Haemophilus influenzae,* and *Streptococcus pyogenes* (group A β-hemolytic streptococci).
**Contraindication:** Known allergy to cephalosporins.
**Warnings:** CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

**Precautions:**
• Discontinue Ceclor in the event of allergic reactions to it.
• Prolonged use may result in overgrowth of non-susceptible organisms.
• Positive direct Coombs' tests have been reported during treatment with cephalosporins.
• Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
• Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
• Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

**Adverse Reactions:** (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:
• Hypersensitivity reactions have been reported in about 1.5% of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of **serum-sickness-like** reactions have been reported with the use of Ceclor. These are characterized by findings of erythema multiforme, rashes, and other skin manifestations accompanied by arthritis/arthralgia, with or without fever, and differ from classic serum sickness in that there is infrequently associated lymphadenopathy and proteinuria, no circulating immune complexes, and no evidence to date of sequelae of the reaction. While further investigation is ongoing, **serum-sickness-like** reactions appear to be due to hypersensitivity and more often occur during or following a second (or subsequent) course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults with an overall occurrence ranging from 1 in 200 (0.5%) in one focused trial to 2 in 8,346 (0.024%) in overall clinical trials (with an incidence in children in clinical trials of 0.055%) to 1 in 38,000 (0.003%) in spontaneous event reports. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy; occasionally these reactions have resulted in hospitalization, usually of short duration (median hospitalization = two to three days, based on postmarketing surveillance studies). In those requiring hospitalization, the symptoms have ranged from mild to severe at the time of admission with more of the severe reactions occurring in children. Antihistamines and glucocorticoids appear to enhance resolution of the signs and symptoms. No serious sequelae have been reported.
• Stevens-Johnson syndrome, toxic epidermal necrolysis, and anaphylaxis have been reported rarely. Anaphylaxis may be more common in patients with a history of penicillin allergy.
• Gastrointestinal (mostly diarrhea): 2.5%
• Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
• As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
• Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
• Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1% and, rarely, thrombocytopenia and reversible interstitial nephritis.

Abnormalities in laboratory results of uncertain etiology.
• Slight elevations in hepatic enzymes.
• Transient lymphocytosis, leukopenia, and, rarely, hemolytic anemia and reversible neutropenia.
• Rare reports of increased prothrombin time with or without clinical bleeding in patients receiving Ceclor and Coumadin concomitantly.
• Abnormal urinalysis; elevations in BUN or serum creatinine.
• Positive direct Coombs' test.
• False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly).

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the follicular and luteal phase and up to 50 mIU/ml at midcycle. Adult female LH levels are 4-30 mIU/ml, with midcycle peaks of 30-150 mIU/ml.

Normal or low concentrations of FSH or LH in the presence of low female estradiol or male testosterone levels, respectively, are suggestive of gonadotropin deficiency, and may warrant stimulatory tests. Hyperprolactinemia must be excluded prior to such testing because it inhibits the secretion of gonadotropin releasing hormone (GnRH). Synthetic GnRH has been used to challenge the pituitary reserve of FSH and LH[9]. Within 30-60 minutes after GnRH 100 mcg i.v., plasma FSH concentrations rise to at least twice the baseline value, and LH concentrations rise to 3-4 times the baseline.

Clomiphene citrate has been used as an alternative challenge of the hypothalamic-pituitary-gonadal axis[10,11]. Clomiphene, a weak estrogen, competes with estradiol for receptors in the hypothalamus, thereby releasing GnRH. In men, clomiphene citrate 50-100 mg twice a day is administered orally for 10 days, and FSH/LH and testosterone levels are obtained prior to clomiphene and on day 10. FSH and testosterone levels normally rise 30%-200% and LH levels 50%-250%. In women, clomiphene citrate 50-100 mg/day is given orally for 5 days. FSH and LH are measured before clomiphene and on days 5, 10 and 15. A normal increase of FSH/LH similar to that in men occurs on day 5, with a preovulatory surge in LH 5-10 days later due to the positive feedback effect of rising estrogen levels. The usefulness of GnRH and clomiphene for diagnostic purposes is limited by considerable variations in the patients' sensitivities, requiring repeated testing, or the use of higher doses.

**Thyrotropin**

Normal plasma TSH levels are 0.4-4.3 mIU/ml and do not exclude partial TSH deficiency. Physiological stimuli for TSH synthesis and release are: Decreased levels of thyroxine and triiodothyronine, and thyrotropin-releasing hormone (TRH), a tripeptide which also stimulates secretion of prolactin by pituitary lactotropes. TSH secretion is inhibited by the negative feedback of thyroid hormones, especially triiodothyronine, and by hypothalamic somatostatin.

The TRH test is the standard method to assess TSH reserve. It has the advantage of challenging the prolactin secretion at the same time. TRH administration can cause transient urinary urgency, lightheadedness and nausea. Therefore, the patient is encouraged to void before the test and is then kept supine. In response to TRH 500 mcg i.v., TSH levels rise to at least 2-3 times the baseline value 30 minutes later. Prolactin levels determined 15 and 30 minutes after TRH are expected to rise to at least twice the baseline value. Exaggerated TSH responses are suggestive of primary (thyroid) hypothyroidism, while tertiary (hypothalamic) hypothyroidism is characterized by a late enhanced TSH response between 60 and 120 minutes following TRH administration[12]. Exogenous thyroid hormone decreases the TSH response to TRH and must be stopped at least 1 month prior to the test. Graves' disease, both euthyroid and thyrotoxic, typically shows diminished TSH response. Some drugs and nonendocrine disease may also affect the TRH test[11]. Depression, renal failure, glucocorticoids, combination oral contraceptives, L-dopa, bromocriptine, cyproheptadine and aspirin may decrease thyrotropic responsiveness. Among factors increasing the TSH response are malnutrition, anorexia nervosa, estrogen, iodides and lithium.

**Corticotropin**

Plasma cortisol levels in the morning range from 5 to 25 mcg/dl, in the afternoon from 2.5 to 12.5 mcg/dl. Morning cortisol levels of less than 10 mcg/dl, or values of less than 20 mcg/dl under conditions of stress, are suggestive of cortisol or ACTH deficiency. Normal morning plasma ACTH concentrations range from unmeasurable (< 10-20 pg/ml) to 130 pg/ml. Corticotropin is unstable in plasma at room temperature and adheres to glass; therefore, samples must be collected in heparinized plastic tubes on ice, centrifuged in the cold, and the plasma sample frozen until assayed[13]. Very low cortisol levels of less than 5 mcg/dl, with ACTH concentrations exceeding 200 pg/ml, clearly mean primary adrenocortical insufficiency (Addisonism). Where there is no access to ACTH assays, the rapid corticotropin (cosyntropin)-stimulation test serves to assess adrenocortical reserve. Plasma cortisol normally rises to 2-3 times the baseline value 1 hour following cosyntropin 0.25 mg subq or i.v.

Borderline low cortisol levels, with "normal" ACTH levels, in a patient suspected to be hypopituitary, warrant a provocative test for corticotropin reserve. Vasopressin has been a more or less reliable stimulus to test for ACTH; its potential side-effects are hypertension and angina. The stimulus of insulin-induced hypoglycemia[14] has the advantage of challenging both ACTH and GH reserves, but is inherently risky, which obviates its use as a simple office procedure.

The single dose metyrapone test is a practical way to examine the integrity of the hypothalamic-pituitary-adrenal axis[15]. Metyrapone blocks adrenocortical 11-hydroxylation of 1-desoxycortisol to cortisol, thus reducing the negative feedback effect of cortisol. The normally resultant outpouring of ACTH enhances steroidogenesis prior to the step of enzyme inhibition, and 11-desoxycortisol (compound S) increases. Metyrapone 30 mg/kg is given between 11 PM and midnight, together with a small snack to reduce gastric irritation. At 8 AM the following day plasma ACTH, 11-desoxycortisol and cortisol are measured. Normally, ACTH levels are increased to over 200-250 pg/ml, and 11-desoxycortisol levels to over 7 mcg/dl. Cortisol levels should be low (less than 6 mcg/dl) if they are to reflect adequate 11-hydroxylase inhibition by metyrapone. Rarely, poor absorption, or rapid, spontaneous or dilantin/phenobarbital-induced, clearance of metyrapone, will make the test less effective.

**Prolactin**

Normal prolactin levels are 0-11.8 ng/ml in men and 0-15.7 ng/ml in women. The hypothalamus exerts a predominantly inhibitory influence on pituitary lactotropes, mostly through dopaminergic mechanisms. The best known physiological stimulator of prolactin is TRH. Synthetic TRH can be used clinically to evaluate both prolactin and TSH reserves (see under TSH above).

*(Continued)* ▶

### General Laboratory Tests

Prior to performing specific anterior pituitary reserve tests, general laboratory studies such as a complete blood count and a chemistry profile including electrolytes may provide subtle but valuable clues to a diagnosis of hypopituitarism. Mild anemia may be due to a deficiency of any or all of the following: Thyroid hormone, glucocorticoids, androgens. A lack of glucocorticoids may also manifest itself in varying degrees of eosinophilia and/or granulocytopenia, hyponatremia, hypoglycemia, and rarely hypercalcemia. Hypothyroidism may be associated with elevated serum cholesterol, transaminase and creatine phosphokinase (MM fraction), and with hyponatremia.

### Conclusion

Beyond baseline hormone testing, a variety of pituitary provocative procedures is available to rule out hypopituitarism. Of these, the L-dopa-propranolol test, the TRH test and the single dose metyrapone test, in the author's experience, meet best the criteria of benefit to the patient, as set forth at the beginning of this treatise. These tests are recommended in order to complete a comprehensive screening in the physician's office of pituitary functional reserve. ■

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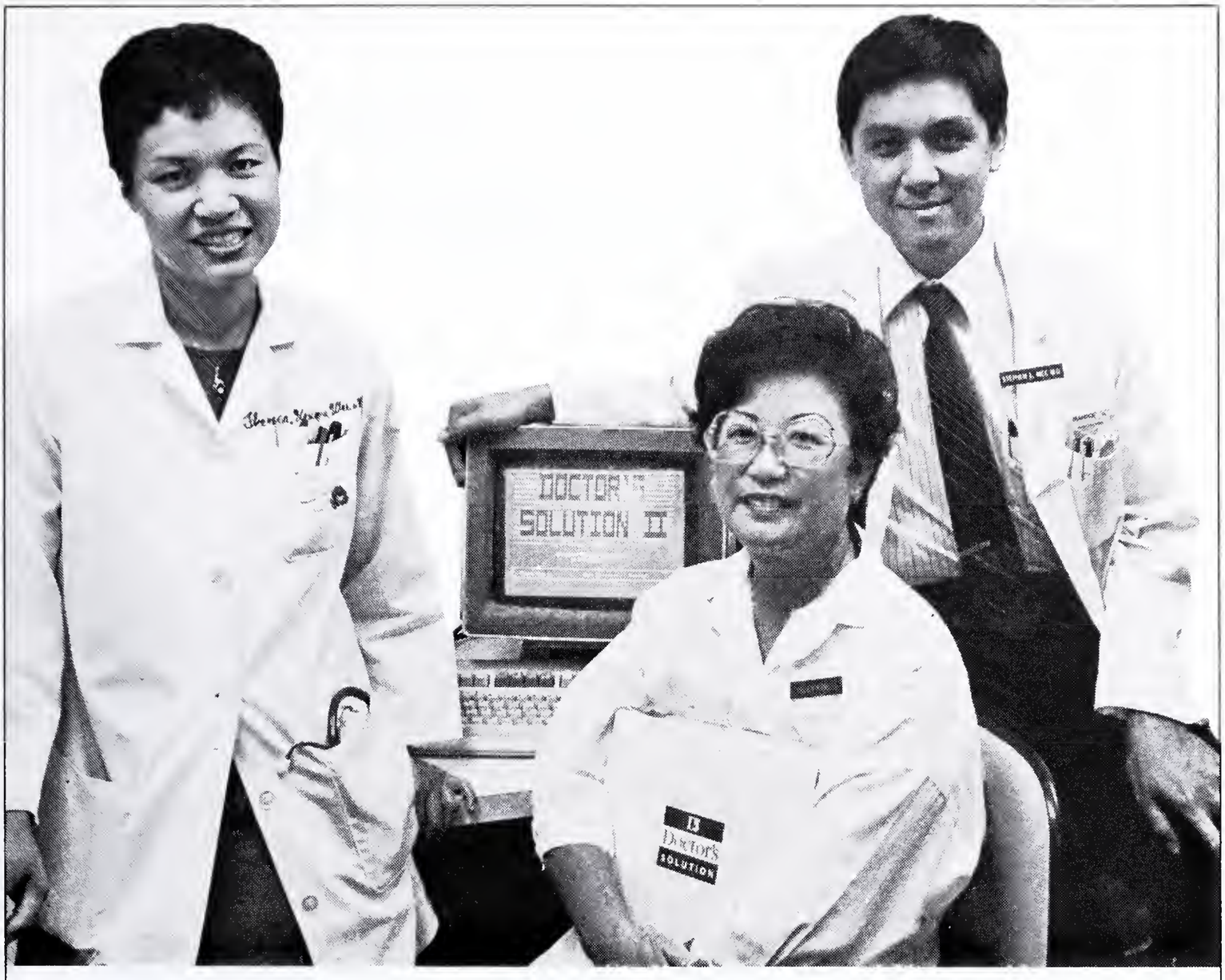



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# Transesophageal echocardiography (TEE): Its diagnostic value in endocarditis

Osamu Fukuyama, MD*
Debra Hiraoka, RDMS**

*Transthoracic two-dimensional echocardiography (TTE) has been an accepted noninvasive procedure used to diagnose infective endocarditis by demonstrating the presence of vegetations and other complications such as ring abcess, mycotic lesions or sinus of valsalva aneurysm[1,2,3]. Moreover, complementary Doppler and Color Flow imaging are very useful in detecting early valvular regurgitation and in evaluating the severity of such regurgitant lesions. Occasionally, TTE fails to provide an adequate quality of imaging because of the patient's obesity, chest deformity or emphysema. Transesophageal echocardiography (TEE) on the other hand, a relatively new technique, allows ultrasonic imaging of the heart through the esophagus and provides a clear visualization of all cardiac structures without any interference from the lungs, chest wall or rib cage[4]. We present a case of aortic valve endocarditis diagnosed by TEE.*

## Case report

A 66-year-old man was admitted to Kuakini Medical Center with a 3-month history of exertional fatigue, dyspnea, back pain, anorexia, weight loss and intermittent fever. He had been seen elsewhere a month earlier. Blood cultures drawn at that earlier time were reported to have grown "group D nonenterococci", and he was given erythromycin for 2 weeks. X-rays of his back showed a compression fracture of T10, to which his back pain was attributed, for which he was treated with analgesics. However, his back pain and dyspnea worsened progressively and he continued to have intermittent fever.

There had been no previous history of a heart murmur, valvular, or congenital heart disease. His past medical history was significant for long-standing asthma.

On admission to the hospital, physical examination revealed a somewhat cachectic man in no acute distress. His pulse rate was regular at 100 beats per minute and his blood pressure was 170/70mmHg. Carotid up-strokes were very prominent and the run-off was very rapid. Auscultation of the chest revealed decreased breath sounds at the right base. Cardiac auscultation revealed normal S1, widely split S2 with well preserved A2 and a loud S3 at the apex. Grade II/VI systolic ejection murmur and grade I/VI diastolic blowing murmur were heard at the aortic area and the left sternal border. Another grade II/VI systolic murmur was heard at the apex. There was mild clubbing of the fingers but no petichiae, subungal hemorrhages or any other peripheral stigmata of infective endocarditis.

The electrocardiogram revealed sinus rhythm and right bundle branch block. A chest x-ray revealed mild cardiomegaly and prominent pulmonary vasculature compatible with moderate congestive heart failure. The white blood cell count was 6,300 with 3 bands and 71 segs. Six blood cultures were negative.

TTE demonstrated increased echogenicity of the aortic valve leaflets which was consistent with but not diagnostic of vegetations; nodular thickening of the leaflets would have given similar echo findings (Fig. 1). The left ventricle was mildly enlarged and showed hyperdynamic wall motion compatible with a left ventricular volume overload pattern. Doppler examination confirmed the presence of moderate aortic regurgitation.

Because of nonspecific findings on the TTE, a TEE was performed. This revealed clearly that multiple vegetations were present on the aortic valve leaflets, the largest one measuring 12mm in length and attached to the right coronary cusp. It moved freely into the left ventricular outflow tract (Fig. 2). Color Doppler examination demonstrated severe aortic regurgitation (the Color Doppler signal occupied the entire left ventricular outflow tract during diastole).

His congestive heart failure mandated that the patient undergo aortic valve replacement with a 25mm St. Judge prosthesis. At the time of surgery, the aortic valve was found to be tri-leaflet and mildly calcified. The right coronary cusp had multiple areas of vegetations and it was nearly completely torn off the annulus as a consequence. There were also multiple vegetations on the other two cusps.

The patient had an uncomplicated postoperative course; his back pain, which was most likely due to septic emboli, also improved.

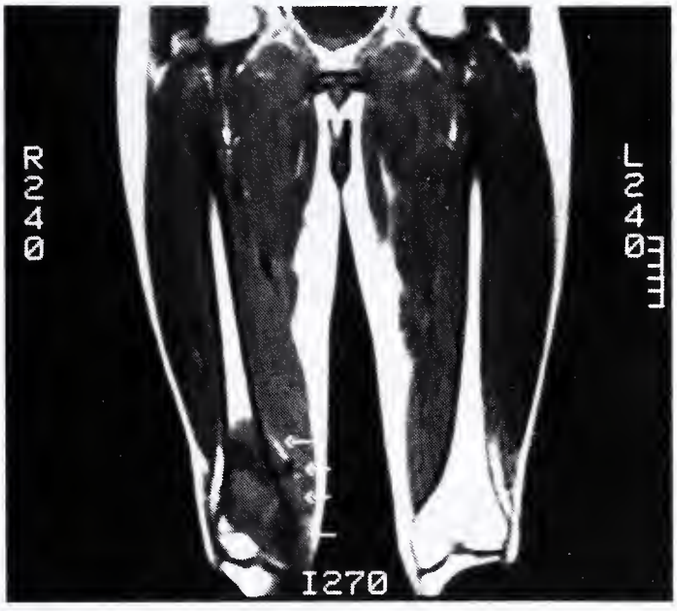
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* Associate Clinical Professor of Medicine
University of Hawaii
Kuakini Medical Plaza #504
Honolulu, Hawaii 96817
** Stenographer
Kuakini Medical Plaza #504
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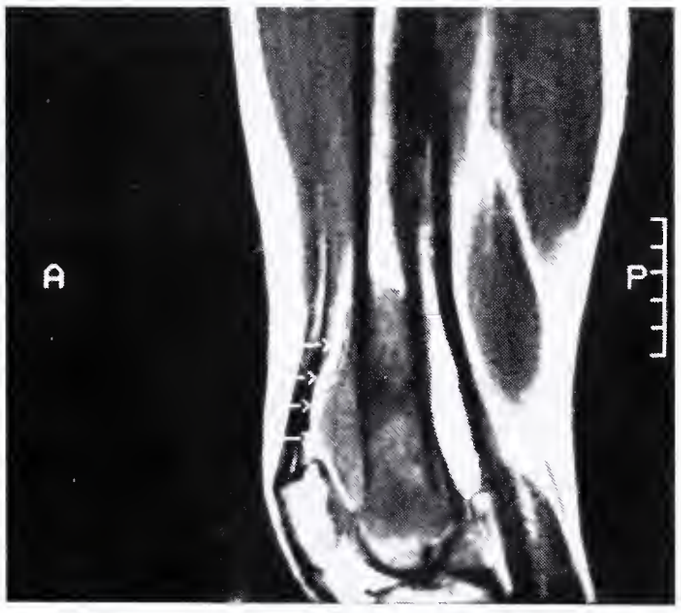
# MRI CASE OF THE MONTH
## OSTEOSARCOMA OF THE FEMUR

**Clinical History:** 18 year old male with biopsy proven osteosarcoma

1




2




*These images were produced by MRI Center of the Pacific using their 1.5 Tesla GE Scanner.*

**Radiologic Diagnosis:** Due to the intrinsic high contrast resolution and multiplanar capabilities of MRI, this modality is very useful in assessing the extent of musculoskeletal neoplasms.

Coronal and sagittal T1 weighed images demonstrate a low intensity tumor replacing high intensity bone marrow fat in the distal 12 cm of the femur. Arrowheads delineate anterior and medial extension of tumor into the soft tissues. Small area of signal void in the coronal image is due to the presence of osteoid matrix in the soft tissues.

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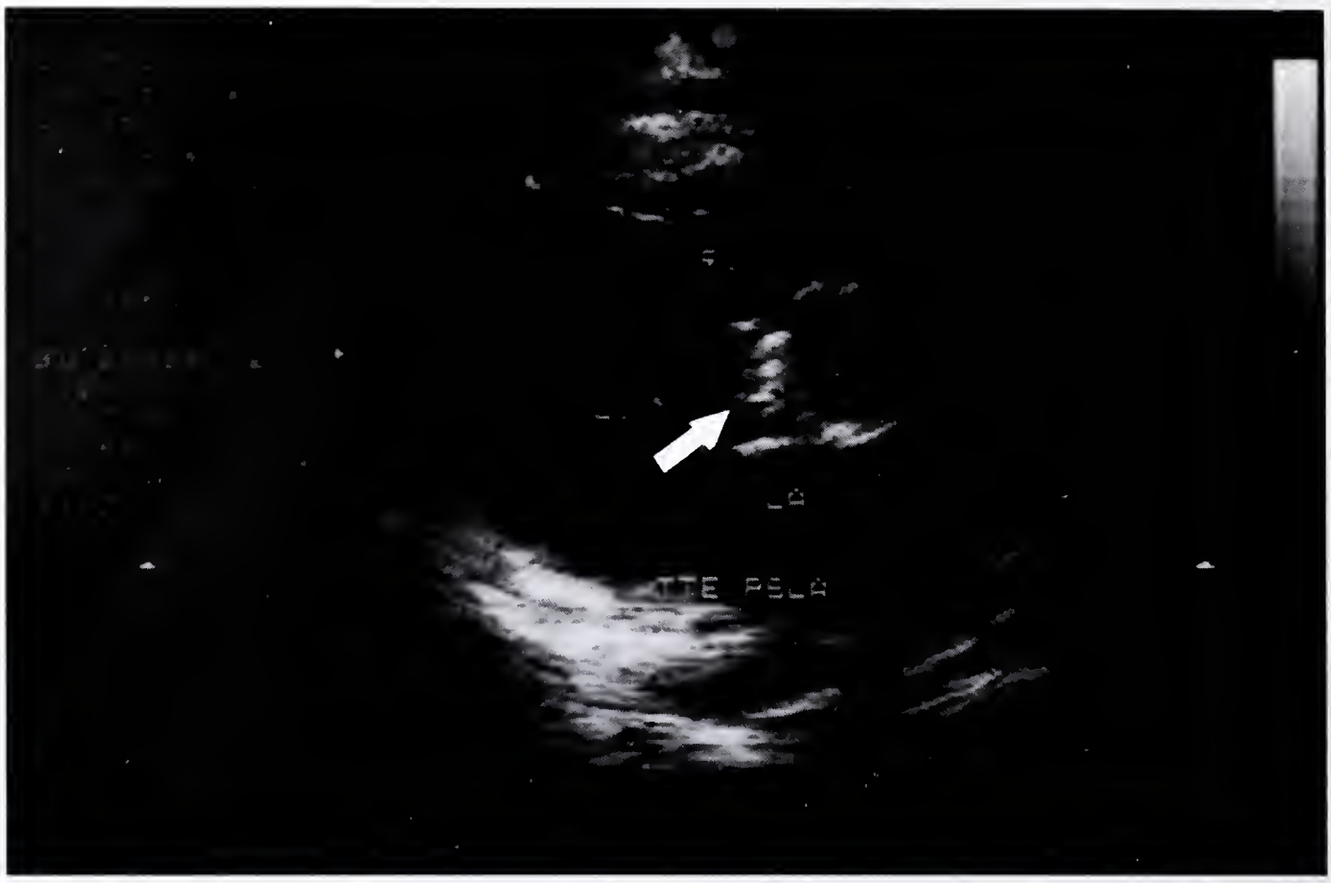
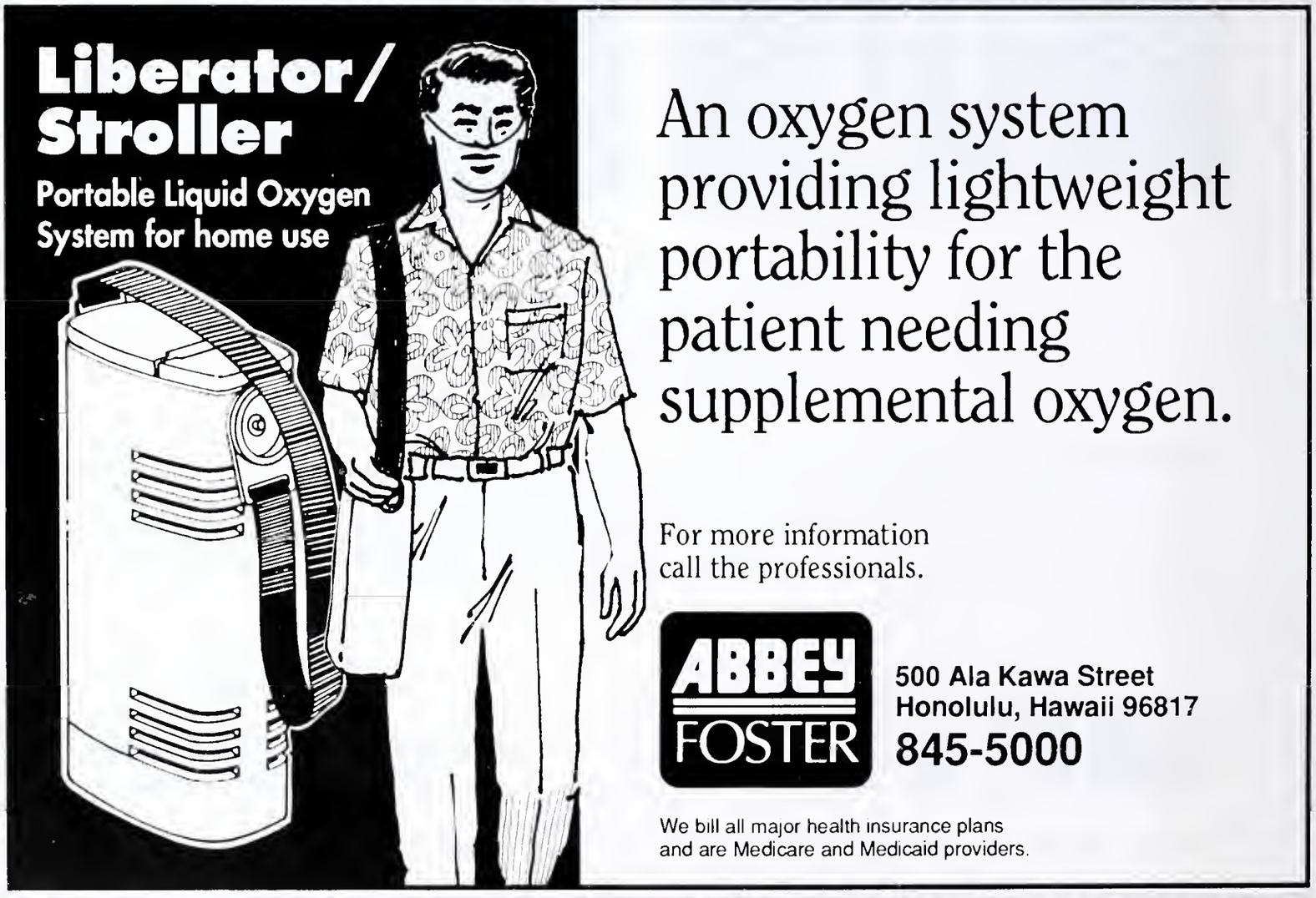


FIGURE 1
Transthoracic echocardiography (TTE) demonstrating increased echogenicity (arrow) of the aortic valve leaflets compatible with, but not diagnostic of, vegetations.

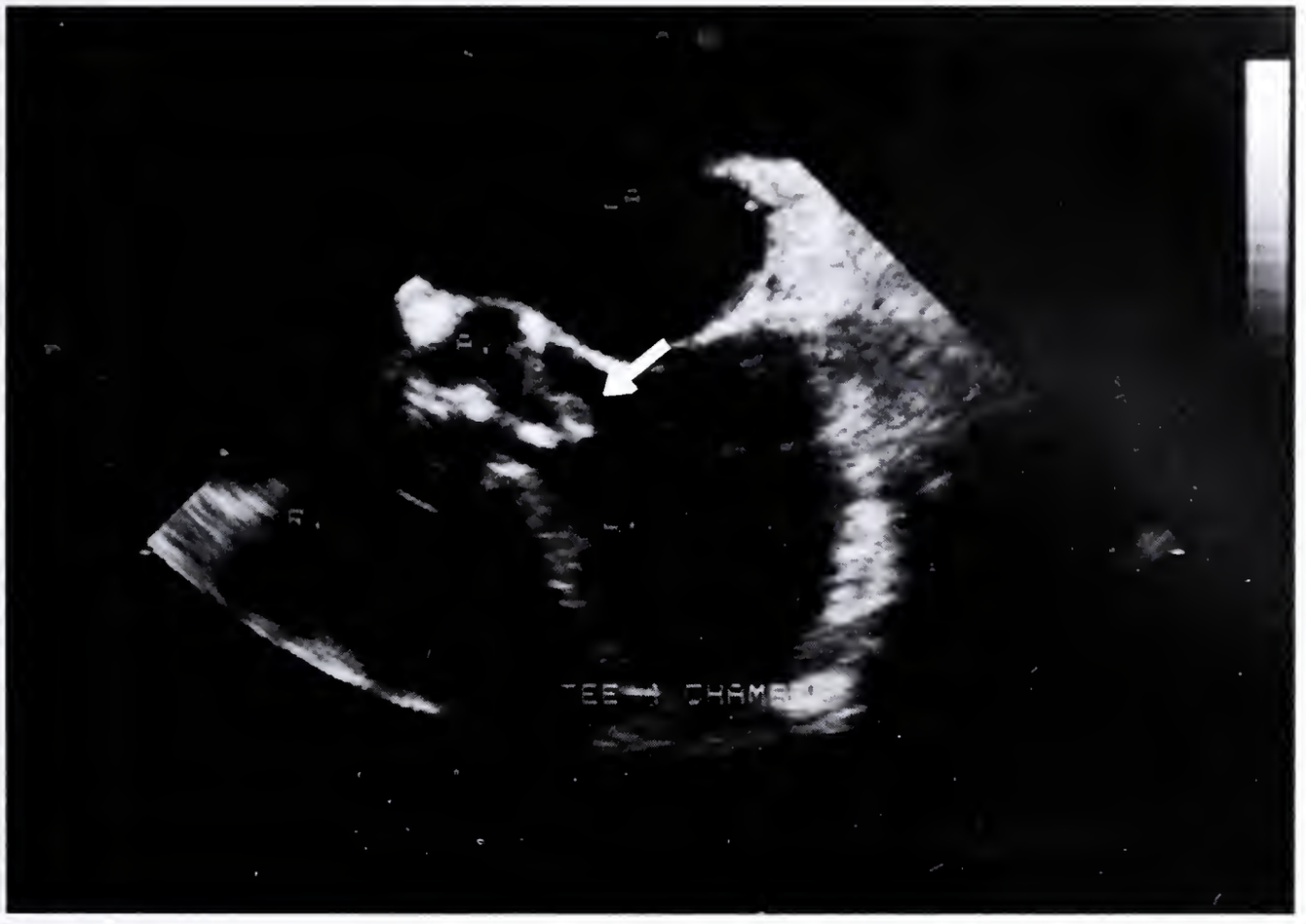


FIGURE 2
Transesophageal echocardiography (TEE) showing a large vegetation (arrow) attached to the right coronary cusp of the aortic valve, which prolapsed into the left ventricular outflow tract.

## Discussion

The detection of valvular vegetations is one of the major applications of echocardiography. The sensitivity of TTE in the detection of vegetations is 50 to 80%, although this often included nonspecific findings labeled as "possible" vegetations[1,2,3,6].

On the other hand, by its close proximity to the heart, TEE overcomes the technical difficulties of TTE (interference by ribs, lungs and adipose tissue) and, in addition, the utilization of higher frequency transducers leads to a better resolution of the image. TEE is much more sensitive in detecting vegetations than TTE[5,6]. Mugge et al, comparing the role of TEE and TTE in 80 patients with histologically proven endocarditis, reported that a "definite" vegetation was detected in only 58% by TTE whereas TEE visualized a "definite" vegetation in 90% of the cases[6].

Our case illustrates the superior image resolution and increase sensitivity of TEE. This made the definitive diagnosis of endocarditis in this patient, whose blood cultures were negative as a result of previous antibiotic treatment, so much easier. As a relatively new technique, the indications for a TEE in clinical cardiology is rapidly expanding (Table 1). ■

TABLE 1
Indications for Ambulatory TEE

1. Endocarditis
2. Aortic dissection
3. Mitral prosthetic dysfunction
4. Suspicion of intracardiac mass or thrombus
5. Inadequate transthoracic study

Other indications include congenital heart disease, flail mitral and tricuspid valves, suspected atrial pathology, other prosthetic valve dysfunctions, etc.

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# INSTRUCTIONS TO AUTHORS HAWAII MEDICAL JOURNAL

## SUMMARY OF REQUIREMENTS

Type manuscript double spaced, including title page, abstract, text, acknowledgments, references, tables, and legends.

Each manuscript component should begin on a new page, in this sequence:

Title
Abstract and key words
Text
Acknowledgments
References
Tables: each table, complete with title and footnotes, on a separate page.
Legends for illustrations

Illustrations must be good quality, unmounted glossy prints usually 12.7 by 17.3 cm (5 by 7 in.) but no larger than 20.3 by 25.4 cm (8 by 10 in.).

## SUBMISSION OF MANUSCRIPTS

Mail the manuscript in a heavy paper envelope, enclosing the manuscript and figures in cardboard, if necessary, to prevent bending of photographs during mail handling. Place photographs in a separate, smaller, heavy paper envelope.

Manuscripts should be accompanied by a cover letter from the author who will be responsible for correspondence regarding the manuscript. The cover letter should contain a statement that the manuscript has been seen and approved by all authors. Include copies of any permissions needed to reproduce published material or to use illustrations of identifiable subjects. Mail to Editor, Hawaii Medical Journal, c/o Hawaii Medical Association, 1360 South Beretania St., Honolulu, Hawaii 96814.

## PREPARATION OF MANUSCRIPT

Type manuscript on white bond paper, 21.6 by 27.9 cm (8½ by 11 in.) with margins of at least 2.5 cm (1 in.). Type only on one side of paper. Use double spacing throughout, including title page, abstract, text, acknowledgments, references, tables, and legends for illustrations. Begin each of the following sections on separate pages: Title Page, Abstract, Text, Ackowledgments, References, Tables and Legends. Number pages consecutively, beginning with the Title Page. Type the page number in the upper right-hand corner of each page.

Manuscripts will be reviewed for possible publication with the understanding that they are being submitted to one journal at a time and have not been published, simultaneously submitted, or already accepted for publication elsewhere. This does not preclude consideration of a manuscript that has been rejected by another journal or of a complete report that follows publication of preliminary findings elsewhere, usually in the form of an abstract. Copies of any possibly duplicative published material should be submitted with the manuscript that is being sent for consideration.

TITLE PAGE: The title page should contain (1) the title of the article, which should be concise but informative; (2) a short running head or footline of no more than 40 characters (count letters and spaces) placed at the top of the title page; (3) first name, middle initial, and last name of each author, with highest academic degree(s); (4) name of department(s) and institution(s) to which the work should be attributed; (7) name and address of author to whom requests for reprints should be addressed, or statement that reprints will not be available from the author; (8) the source(s) of support in the form of grants, equipment, drugs, or all of these.

TEXT: The text of observational and experimental articles is usually — but not necessarily — divided into sections with the headings: Introduction, Methods, Results, and Discussion. Long articles may need subheadings within some sections to clarify their content, especially the Results and Discussion sections.

*Introduction:* Clearly state the purpose of the article. Summarize the rationale for the study or observation. Give only strictly pertinent references, and do not review the subject extensively.

*Methods:* Describe your selection of the observational or experimental subjects (patients or experimental animals, including controls) clearly. Identify the methods, apparatus (manufacturer's name and address in parenthesis), and procedures in sufficient detail to allow other workers to reproduce the results. Give references to established methods, including statistical methods; provide references and brief descriptions of methods that have been published but are not well known; describe new or substantially modified methods, give reasons for using them, and evaluate their limitations.

Include numbers of observations and the statistical significance of the findings when appropriate. Detailed statistical analyses, mathematical derivations, and the like may sometimes by suitably presented in the form of one or more appendices.

*Results:* Present your results in logical sequence in the text, tables, and illustrations. Do not repeat in the text all the data in the tables and/or illustrations — emphasize or summarize only important observations.

*Discussion:* Emphasize the new and important aspects of the study and conclusions that follow from them. Do not repeat in detail data given in the Results section. Include in the Discussion the implications of the findings and their limitations and relate the observations to other relevant studies. Link the conclusions with the goals of the study but avoid unqualified statements and conclusions not completely supported by your data. Avoid claiming priority and alluding to work that has not been completed. State new hypotheses when warranted, but clearly label them as such. Recommendations, when appropriate, may be included.

ACKNOWLEDGMENTS: Acknowledge only persons who have made substantive contributions to the study. Authors are responsible for obtaining written permission from everyone ackowledged by name because readers may infer their endorsement of the data and conclusions.

REFERENCES: Number references consecutively in the order in which they are first mentioned in the text. Identify references in text, tables, and legends by arabic numerals. References cited only in tables or in legends to figures should be numbered in accordance with a sequence established by the first identification in the text of the particular table or illustration.

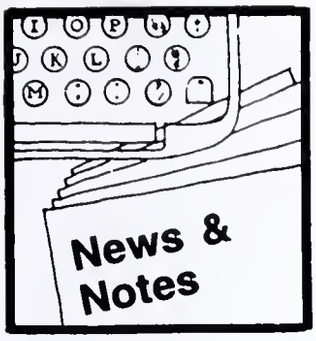
Use the form of references adopted by the U.S. National Library of Medicine and used in *Index Medicus*. The titles of journals should be abbreviated according to the style used in *Index Medicus*.

TABLES: Each table and figure must be camera-ready, i.e., black-and-white glossy stat or veloxe. All copy within the table must be typeset. Desktop, computer-generated systems may be used if print quality is comparable to typeset copy. Type should be set in Helvetica. Headlines should be boldface, all capital. Subheads should be boldface, upper and lower case. All other copy should be medium face. Most tables are published 1½ columns or 3½" wide. Height should be proportional. Editorial copy is 9 pt. Copy in tables should be proportional in terms of size. Do not use screens. Tables should be bordered with thin, single line border. Number tables consecutively and supply a brief title for each. Give each column a short or abbreviated heading. Place explanatory matter in footnotes, not in the heading. Explain in footnotes all nonstandard abbreviations that are used in each table. For footnotes, use the following symbols in this sequence: *, **, †, ‡, §, |, ¶, †† . . . Identify statistical measures of variations such as SD and SFM.

ILLUSTRATIONS: Submit the required number of complete sets of figures. Figures should be professionally drawn and photographed; freehand or typewritten lettering is unacceptable. Instead of original drawings, roentgenograms, and other material, send sharp, glossy black-and-white photographic prints, usually 12.7 by 17.3 cm (5 by 7 in.) but not larger than 20.3 by 25.4 cm (8 by 10 in.). Letters, numbers and symbols should be clear and even throughout, and of sufficient size that when reduced for publication each item will still be legible. Titles and detailed explanations belong in the legends for illustrations, not on the illustrations themselves.

Each figure should have a label pasted on its back indicating the number of the figure, the name of the authors, and the top of the figure. Do not write on the back of the figures or mount them on cardboard, or scratch or mar them using paper clips. Do not bend figures.

LEGENDS FOR ILLUSTRATIONS: Type legends for illustrations double spaced, starting on a separate page with arabic numerals corresponding to the illustrations. When symbols, arrows, numbers, or letters are used to identify parts of the illustrations, identify and explain each one clearly in the legend. Explain internal scale and identify method of staining in the photomicrographs.




HENRY YOKOYAMA, MD

## Life in These Parts. . .

Spotted a grey, older model Chrysler Le Baron with the license plate: "BERTHA" and the Yuppie bumper sticker: "I OWE ... I OWE ... SO OFF TO WORK I GO..."

Also noticed a metallic grey Jaguar XJS with the bumper sticker: "Bad Boys Drive Bad Toys."

Hawaiian Rent All sign for May: "TOOLS FOR RENT — WE FIX ALMOST ANYTHING EXCEPT TICKETS." In July, the sign read: "JOIN THE FAN CLUB — RENT ONE."

* * *

*Nursing Homes in Hawaii Among the Best:* Elizabeth Anderson who heads the DoH Hospital & Medical Facilities Branch reports: "that the recently released Health Care Financing report shows that nursing homes in Hawaii are considerably ahead of those on the mainland ... Far from finding fault with the isle hospitals, the report reflects that most of Hawaii's nursing homes outrank the average of the nation ... Hawaii can be proud of this achievement..."

* * *

*State's Most Fit Kids:* The State DoE reports that students at Pearl Harbor Kai have the highest fitness test scores, ie 79% of its students scored at the national goal of 50% or better on each of six skills ... The students are all military dependents and the parents are supportive of the physical fitness emphasis ... Aerobics proponent Kenneth Cooper visited the school to praise the students and remarked that the parents are the key role models...

* * *

J. I. REPPUN (A portrait by Susan Manuel, Star-Bulletin reporter): "He tells general practitioner stories that light up his avuncular face."

"An 85-year-old pig farmer refused surgery for his urinary blockage and made his own catheter that would occasionally fall out in the mud..."

"Another man cured his constipation by drinking Epsom salt mixed with gasoline ... It finally killed him."

"Insurance is a huge pot of gold and everyone wants to dip into it..." (re medical liability insurance)

"A doctor is a human being who's extremely nebby." (Webster: nebby = rudely inquisitive.)

"Another mentor prescribed regular doses of ADT pills (Any Damn Thing)."

## Elected, Appointed & Honored

Tommy Chang, former city and state boxing commission physician, was appointed by Mayor Frank Fasi to serve on the Honolulu Liquor Commission...

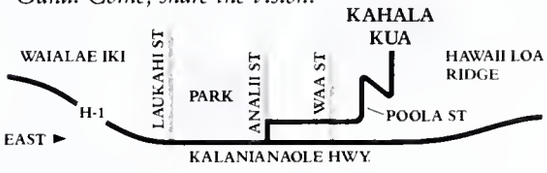
Pediatrician and medical epidemiologist Ed-

*(Continued)* ▶





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ward Hayes, formerly with the Center for Disease Control has been named Tole Mour shipboard medical director and health sciences training officer of Marimed Foundation of Honolulu...

## Professional Moves

July: Rheumatologist Jeffrey Fong left the Honolulu Medical Group to concentrate at the Queen's Physicians Office Building, Suite 706 ... OB Gyn man Jon Fujita joined the Kalihi Medical Center, Inc., 2055 N. King ... Urologist Herbert K. W. Chinn Jr. opened his new offices at St. Francis Medical Center Bldg., Ste. 207 and at Kailua Professional Center Bldg. II, Ste. 411 ... James Phillips, former director of Hamakua Infirmary and chief of staff Honokaa Hospital joined the Kaiser Permanente Kona Clinic...

August: Neurologist Melvin Wong associated with Michael Okihiro and Melvin Yee at Kuakini Medical Plaza, Ste. 810 and at Pali Momi Medical Center, Ste. 440 ... FP Jayesh Shah is the new director of St. Francis Medical Center's Neighborhood Health Center at the Kalihi-Palama Multiservice Center on N. King Street ... Orthopod Jeffrey J. K. Lee joined Gabriel W. C. Ma at Queen's Physicians Office Building, Suite 214...

September: Hilo internist and gastroenterologist Edwin Montell relocated to 261 Waianuenue from 1292 Waianuenue, Hilo HI 96720 (Susan at HMA got the message). Nephrologist Aaron K. Nada joined the nephrologists' group of Dudley Seto, Richard Shim and Mohamed Ramadan which has offices at Professional Plaza of the Pacific at 1520 Liliha St.; Pali Momi Medical Center, Ste. 410; and at Waianae Specialists Clinic, 85-888 Farrington Highway, 2nd Floor, Waianae, HI...

* * *

*The Dangers of Cocaine Abuse* (As gleaned from Ron Peroff's article in the Downtown Planet, September 10) — Cocaine abusers risk scarring of nostril, septal perforation and constant nose bleeds ... Abusers are easily addicted because cocaine gives a feeling of well being or high ... Once addicted, they begin to use cocaine for relief of depression or boredom or sexual enhancement ... In the late phase, the abusers lose weight, suffer severe depression and paranoia ... An estimated 30 million Americans have tried cocaine and 6 million Americans use it currently ... There are 5,000 new abusers each day ... Cocaine is snorted, taken IV or smoked (in the form of crack) ... Cocaine is absorbed quickly through the mucous membrane and excreted in urine ... It can remain in the body 24 to 36 hours ... CNS effects include rise in BP, tachycardia, and seizures ... Pregnant women risk spontaneous abortion or premature delivery ... Their babies have low birth weights, increased or decreased reflexes, feed poorly or have abnormal sleep patterns ... Deaths result from myocardial damage, arrhythmias or from spasm and thrombosis of normal coronaries...

## Miscellany

Four older ladies were sitting and bragging about their sons ... The first lady: "My son was such a rotten kid, but he went into the ministry and now it's 'Pastor this' and 'Pastor that'..." Second lady: "My son, can you imagine, became a bishop ... So now it's 'Your Reverend this' and 'Your Reverend that'..." Third lady: "What a surprise when our Lester was appointed Cardinal ... Now, it's 'Your Grace this' and 'Your Grace that'..." Fourth lady: You know my

*(Continued)* ▶

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son ... He was always big ... But now he's 6'10 and weighs 420 pounds ... So everyone who meets him says 'Oh my God!' 'Oh my God!'" (As told by our favorite ICI Pharma rep Harvey Peltz)

Three pregnant ladies were sitting in their OB Gyn's waiting room ... "You know this doctor can predict the sex of your baby just by talking to you..." The first lady went in and came out happy ... "The doctor says I'm having a baby girl because I was on the bottom..." The second lady came back and reported: "The doctor says I will have a baby girl because I was on top..." The third lady started to leave ... "I don't want to know that I'm having puppies..." (Another Harvey Peltz contribution)

## National News

The Bush administration sent to Congress a proposed revision in Medicare fees on August 31 ... the first step toward establishing a nationwide fee-scale covering more than 7,000 physician services from X-rays to heart surgery. The change scheduled to be implemented January 1, 1992 will affect more than 500,000 physicians. The new price schedule would pay internists more and surgeons somewhat less and narrow the income gap between rural and urban physicians. Louis Sullivan, secretary of DHH said the move to a nationwide fee-scale for Medicare would mark "the most wide-ranging and fundamental changes in Medicare's physician payment system" since the program began in 1965.

* * *

*Is One Cup A Day Good Enough Or Are Three Cups Better?* Michigan researchers discovered that people who drink a cup of coffee a day keep percolating sexually right into old age ... Urologist Ananias Diokno from William Beaumont Hospital in Royal Oak, Michigan and fellow researchers were studying urinary incontinence in older population when they discovered through routine questioning that alcohol and smoking had no correlation with sex, "just with coffee." Ananias is happy to bring encouragement to coffee drinkers, but he doesn't recommend everybody drink all the coffee they can right now... (Archives of Internal Medicine January Issue)

* * *

*Fish Sex Change* —(Sydney) An environmental scientist told the national parliament that the use of birth control pills by Australian women may be changing the sex of fish. The fish are swimming in water polluted by estrogen-rich sewage. The estrogen produces genetically female, but infertile fish ... (PB October Issue)

## Oncology Dialogue

A 63-year-old Oriental man was found to have a firm prostatic nodule ... A needle biopsy confirmed prostate cancer ... The patient had a radical prostatectomy and the issue now was whether or not to irradiate...

Our pathologist emeritus Grant Stemmerman, at an earlier conference, had stated categorically that no one was going to do a rectal on him now that he had reached the venerable age of 70 .... Stemmy had elucidated that the 15-year survival of prostate cancer was the same whether or not it was treated ... that the postop impotence and incontinence was a greater problem...

Moderator Glenn Kokame, remembering Stemmy's feelings, asked impishly: "Stemmy, how do you feel about the impotence and incontinence after prostate surgery?" And Stemmy was off to the race tracks: "The rule of thumb is, if it is a well differentiated tumor and small, it should be followed ... Most Scandinavians and the English have a 40-50% 15-year survival with or without treatment and they die of concomittant diseases as well ... But this patient at age 63 may have an increased survival with his surgery..." Glenn dared even further: "How about the use of growth hormones as a fountain of youth?" Stemmy: "Since 33% of autopsy cases have occult tumors, we can anticipate a fine crop of growing tumors."

Radiotherapist Charley Yamashiro feels strongly about radiation therapy ... "In the 1969 VA Studies, the average age of patients treated was 69." Stemmy countered with: "I believe there is a more recent VA study..." To stave off a violent confrontation, Glenn turned to radiologist Donn Kumasaki: "Can you stage prostatic tumors with CAT scans?" Donn: "If the tumor is gross, but not on microscopic tumors." "How about MRI's?" Donn: "There is more confusion with the MRI at this time so it may only cloud the issue." Glenn to the woman surgical resident: "Dr. Johnson, how about the problem of impotence with radical prostatectomy?" Dr. Johnson had done her homework: "100% become impotent."

Charley was still bristling for skirmish: "We started our program on an 88-year-old and a 90-year-old and there has been no problem." Stemmy was the Rock of Gibralta: "Even with Stage IV, the average survival is 3-1/2 to 4 years ... Patients die of other diseases first."

Glenn turned to pathologist Takushi Hayashi: "How do you know if all the cancer has been removed?" Takushi: "By careful sectioning ... We are always concerned about tumor beyond the cut margin ... On this patient, after careful sectioning, we are certain no tumor has been left." Takushi had spoken...

Fellow radiotherapist Ed Quinlan came to the rescue: "This is a clinical $B_1$ so no radiation is indicated." Thus we end the steamy conference dialogue with our own soliloquy: "To treat or not to treat, that is the question..."

## Miscellany

A weekend duffer teed off and sliced his shot behind a tree ... The second shot ricocheted off the tree, hit him in the head and killed him ... The shaken and dazed fellow suddenly found himself standing before the Pearly Gates ... St. Peter scanned his clipboard and asked: "How did you get here?" "In two..." replied the duffer. (A Bill Dang style joke.)

* * *

A hit and run victim was just getting to his feet when a policeman ran up to assist ... "My mother in law just tried to run me over," the shaken man told the cop. "The car hit you from behind," the officer said. "How could you tell it was your mother-in-law?" "I recognized the laugh..."

* * *

"What do you have when you have 20 lawyers up to their necks in sand?" "Not, 'nuf sand."

* * *

"How can you tell that a lawyer is lying?"
"His lips are still moving..."
(As told by our favorite Dista rep John Howitt)

## Doctors Jokes

The post CABG patient was receiving instructions from his cardiac surgeon ... He was placed on

*(Continued on page 440)* ▶

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# Maka O Ka Kauka

Russell T. Stodd, MD

**Hang me if you will, but don't expect me to build the gallows.**

The legislature in the state of Oregon has embarked on a plan to attempt to improve the use of their Medicaid dollars. To do so, requires a Congressional waiver of the present rules which apply to Medicaid expenditures. Theoretically, by reducing some of the big ticket items when indications are questionable, more dollars will be available at the lower end of the spectrum for child care, immunizations, family planning, among others. Interestingly, the doctors, including the Oregon Academy of Ophthalmology, are participating in this rationing effort. And whatever hits the fan will not be distributed evenly.

**Systems tend to grow, and as they grow, they encroach.**

Despite reimbursement changes and investment threatening legislation (thank you, Fortney), surgicenters continue to grow. In 1989, the number increased to 1,221, a 27% increase over 1988. By year's end, nearly 1,400 centers will be functioning to perform 2.5 million procedures. Eye, ENT, Gyn and orthopedics make up 67% of all surgeries performed. Since these medical expenditures are outside of the hospital, they are included in Medicare part B data. Of course, the media, joyously bent on doctor bashing, quote increases in part B as physician gouging of Medicare.

**A prophet is not without honor save in his own country.**

October 12th, 13th and 14th were the dates of the annual meeting of the Hawaii Medical Association. "Blindness in Hawaii" was presented on Friday, October 12 by members of the Hawaii Ophthalmological Society (HOS). Participants were Percival Chee, John Drouilhet, Greg Kokame, Donald Sroat, Rhoads Stevens and Shigemi Sugiki. This was the first time in my memory that the HOS had been invited to present an entire session at the HMA annual meeting.

**Justice is blind — blind she is, and deaf and dumb, and has a wooden leg.**

In Arizona, a jury awarded a $28.7 million judgement against a neonatologist in a case which an infant in 1985 received an HIV tainted blood transfusion. In response, the Arizona Medical Association has passed a resolution rejecting the current tort reform system for resolving adverse medical outcomes. The outrageous award provides valuable ammo for the Arizona docs in their attempts to move the legislature toward tort reform.

**As we have therefore opportunity, let us do good onto all men.**

A noted cataract surgeon on a recent *Audio-Digest* tape stated that he sees no reason to use viscoelastic on every case. However, ophthalmologist Philip Shelton, MD, JD, states in a recent *Ocular*

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*Surgery News* that surgeons performing ECCE or PKE cataract extraction prefer to use Healon. To choose not to use it as a cost constraint, places the patient at increased risk for injury. Thus, the best medical choice, not to mention ethical, is to use it. When considering the immense costs in time and money attendant to just one malpractice claim, one perceives that the financial considerations are heavily in favor of viscoelastic. Therefore, according to Dr. Shelton, viscoelastic usage should be in the norm in virtually 100% of cases.

**The only way to look on a politician is down.**

In pursuit of "bad doctors," the Detroit Free Press published articles attacking *Big Cutters*. The newspaper alleged that some eye surgeons in the Detroit area offer van rides, free lunches and trinkets, and sometimes perform unnecessary surgery. Subsequently, ever ready to root out the rascals (except in Congress) Fortney (he wants us to call him Pete) Stark D-Calif. incorporated high volume surgery in his subcommittee's hearings on Medicare fraud, waste and abuse. Michael Mangano of the Office of the Inspector General appeared to define "high volume" as surgeons who received more than $1 million in 1987. Supposedly, OIG data established that high volume surgeons performed 3.4% unnecessary operations, compared to 1.7% among all ophthalmologists. Also, the OIG study found that 1.8% of cataract patients received *poor* quality care, and 14.6% received *questionable* care, although these terms had no specific definition. Bruce Spivey, MD, speaking for the AAO noted that volume is not the issue, but unnecessary, inappropriate or unwanted surgery is the issue. He stressed that the AAO is strongly opposed to selling cataract surgery like a commodity.

**If it happens, it must be possible!**

Despite continuing Federal efforts to ratchet rearward a rigid reimbursement regimen for Medicare services, the inventor/creator/innovators have not slackened research. Laser technology is invading virtually all accesses and recesses of the human body, but espe-

*(Continued)* ▶


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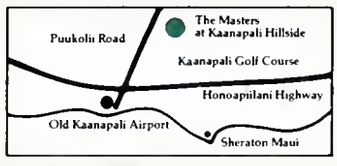







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## MAKA O KA KAUKA *(Continued)*

eially that magnifieent sense organ, the eye. The diode laser, easily portable, funetions nieely for endophotoeoagulation, Nd:YAG lasers are being expanded for trabeculoplasty and also for photokerateetomy, the exeimer is rolling onward for photoablation and corneal reshaping, and researeh eontinues for exeimer or Nd:YAG phakoablation cataraet extraetion. One wonders, will knives go the way of the dodo bird, the passenger pigeon, the Nehru jacket and Jimmy Carter?

**Power politics is the diplomatic name for law of the jungle.**

In 1914, Congress established the Federal Trade Commission to prevent persons, partnerships or eorporations from using unfair methods of eompetition in eommeree. Never shy about how far to interpret that mandate, the FTC now has ruled in *Eyeglasses II* that *state laws* are also supereeded. Supposedly, *Eyeglasses II* will provide inereased eompetition among those who market glasses, and erase any state restrietive statutes. The matter has preeipitated a lawsuit from a dozen state boards of optometry and two optometric associations. Aeeording to an old LA County Hospital friend, California legislator Bill Filante, MD, the wallet impact on many optometrists would foree ODs there to press hard for their therapeutie drug legislation as an economie necessity.

**We have met the enemy, and he is ... us.**

Lawrence Winograd, MD editorializes in *Ophthalmology Management* on the pending plans of the green visor gurus at HCFA to establish "praetiee guidelines." The AMA in reaetion is working to lay out "praetiee parameters" and the AAO prefers the words "preferred praetiee patterns." A rose by any other name ---. Dr. Winograd opines eorrectly that we are headed for eookbook medicare eare in which one will be obliged to follow the printed text, or if not, to faee the calculated attack of the plaintiffs' attorneys. He wonders, will we ever learn? (See item one above.)

**Yolen's Law of Self-Praise:**

Proelaim yourself "World Champion" of something — rope-jumping, bean counting, whatever — send this notiee to newspapers, radio, TV, and wait for challenges to eonfront you. Avoid ehallenges as long as possible, but eontinue to send news of your aehievements to all media. Also, develop a newsletter and letterhead for eommunieations.

**Addenda—**

1. In a series of 46 patients with AIDS who developed CMV retinitis, the median survival time was 5.5 months.

2. It really happened — a 38-year-old man in Illinois, distraught over an argument with his girlfriend, killed himself by cutting a hole in his water bed, stieking his head through it, and drowning himself.

3. And remember — if voting ehanged anything, they'd make it illegal.

Aloha, and keep the faith,
rts

## NEWS AND NOTES *(Continued from page 437)*

a strict low salt diet, denied tobacco and advised to get at least 8 hours of sleep. Finally the patient asked, "How about my sex life, Doc? Will it be all right to have sex?" "Just your wife," responded the surgeon ... "We don't want you to get too excited." (Anonymous)

* * *

A new patient was airing his symptoms to an internist ... "After the first, I'm tired, Doc. After the second, my chest aches and I start getting pains in my legs. After the third, I feel faint and it takes half an hour for my heart and breathing to get back to normal." "Why don't you quit after the first?" inquired the internist. "How can I do that, Doc?" the patient asked, "I live on the third." (Anonymous)

* * *

A young man complaining of chronic fatigue went through a battery of tests which were all negative. "The best thing for you to do," the physician said, "is to give up drinking and smoking, get to bed early and stay away from women." "Doc, I don't deserve the best," said the patient. "What's next best?" (Anonymous)



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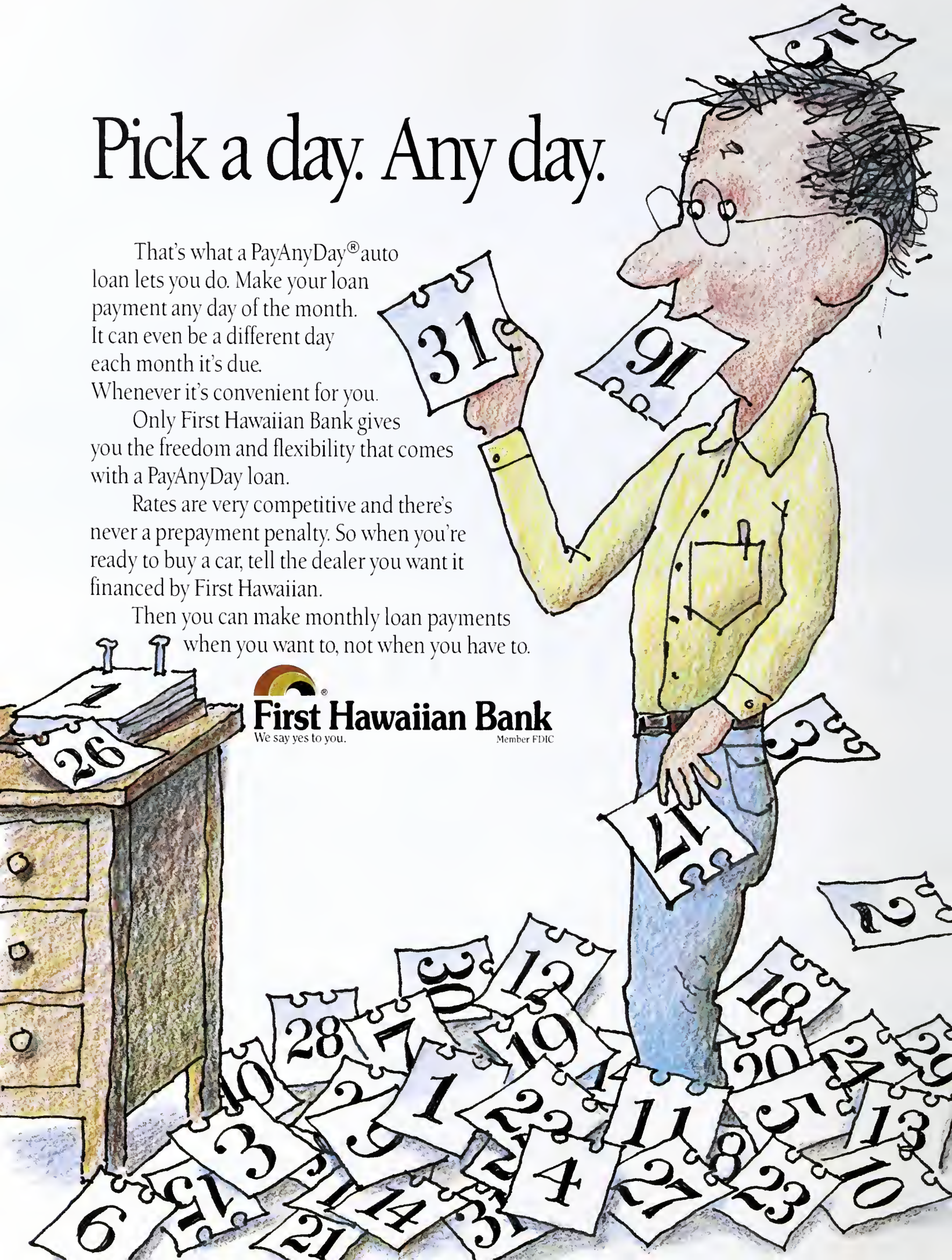
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## CONTENTS

**EDITORIALS** 447
**Doctor to patient communication**
J. I. Frederick Reppun MD

**Living Wills**
J. I. Frederick Reppun MD

**Generic Drugs**
J. I. Frederick Reppun MD

**LETTER TO THE EDITOR** 451

**CONTINUING MEDICAL EDUCATION** 452

**THE RISING COST OF MEDICAL CARE** 455
J. I. Frederick Reppun MD

**LIVING WILLS AND THE RIGHT TO DIE** 461
Steven J. Wallach MD
Jeff P. Crabtree Esq

**LEAD POISONING: CAUSE FOR ALARM** 467
Denis J. Fu MD

**DERMATOLOGY, 50 YEARS AGO** 469
Harry L. Arnold MD

**MAKA O KA KAUKA** 472
Russell T. Stodd MD

**OVER THE EDITOR'S DESK** 475
S. Kalani Brady MD

**POEM: ADVENT** 478
Robert S. Flowers MD

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**Warnings:** *Angioedema* Angioedema of the face, extremities, lips, tongue, glottis, and/or larynx has been reported in patients treated with ACE inhibitors, including VASOTEC. In such cases, VASOTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been confined to the face and lips, the condition has generally resolved without treatment, although antihistamines have been useful in relieving symptoms. Angioedema associated with laryngeal edema may be fatal. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mL to 0.5 mL), should be promptly administered.** (See ADVERSE REACTIONS.)

*Hypotension* Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Patients with heart failure given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed, caution should be observed when initiating therapy. (See DOSAGE AND ADMINISTRATION.) Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion of any etiology. It may be advisable to eliminate the diuretic (except in patients with heart failure), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIONS, *Drug Interactions* and ADVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the first two weeks of treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident. If excessive hypotension occurs, the patient should be placed in the supine position and, if necessary, receive an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further doses of VASOTEC, which usually can be given without difficulty once the blood pressure has stabilized. If symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant diuretic may be necessary.

*Neutropenia/Agranulocytosis* Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

**Precautions:** *General: Impaired Renal Function.* As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

**Evaluation of patients with hypertension or heart failure should always include assessment of renal function.** (See DOSAGE AND ADMINISTRATION.)

*Hyperkalemia* Elevated serum potassium (>5.7 mEq/L) was observed in approximately 1% of hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with VASOTEC. (See *Drug Interactions.*)

*Surgery/Anesthesia* In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

*Information for Patients*

*Angioedema* Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

*Hypotension* Patients should be cautioned to report lightheadedness, especially during the first few days of therapy. If actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

*Hyperkalemia* Patients should be told not to use salt substitutes containing potassium without consulting their physician.

*Neutropenia* Patients should be told to report promptly any indication of infection (e.g., sore throat, fever) which may be a sign of neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

*Drug Interactions.*

*Hypotension: Patients on Diuretic Therapy* Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and DOSAGE AND ADMINISTRATION.)

*Agents Causing Renin Release:* The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

*Other Cardiovascular Agents.* VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyldopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence of clinically significant adverse interactions.

*Agents Increasing Serum Potassium.* VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

*Lithium.* Lithium toxicity has been reported in patients receiving lithium concomitantly with drugs which cause elimination of sodium, including ACE inhibitors. A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation of both drugs. It is recommended that serum lithium levels be monitored frequently if enalapril is administered concomitantly with lithium.

*Pregnancy—Category C.* There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enalapril to pregnant hamsters.

There are no adequate and well-controlled studies of enalapril in pregnant women. However, data are available that show enalapril crosses the human placenta. Because the risk of fetal toxicity with the use of ACE inhibitors has not been clearly defined, VASOTEC® (Enalapril Maleate, MSD) should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Postmarketing experience with all ACE inhibitors thus far suggests the following with regard to pregnancy outcome. Inadvertent exposure limited to the first trimester of pregnancy has not been reported to affect fetal outcome adversely. Fetal exposure during the second and third trimesters of pregnancy has been associated with fetal and neonatal morbidity and mortality.

When ACE inhibitors are used during the later stages of pregnancy, there have been reports of hypotension and decreased renal perfusion in the newborn. Oligohydramnios in the mother has also been reported, presumably representing decreased renal function in the fetus. Infants exposed *in utero* to ACE inhibitors should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support of blood pressure and renal pertusion with the administration of fluids and pressors as appropriate. Problems associated with prematurity such as patent ductus arteriosus have occurred in association with maternal use of ACE inhibitors, but it is not clear whether they are related to ACE inhibition, maternal hypertension, or the underlying prematurity.

*Nursing Mothers* Milk in lactating rats contains radioactivity following administration of $^{14}C$ enalapril maleate. It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be exercised when VASOTEC is given to a nursing mother.

*Pediatric Use* Safety and effectiveness in children have not been established.

**Adverse Reactions:** VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 2987 patients.

*HYPERTENSION* The most frequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were: diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

*HEART FAILURE* The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial infarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each category:

*Cardiovascular* Cardiac arrest, myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*), pulmonary embolism and infarction; pulmonary edema, rhythm disturbances, atrial fibrillation, palpitation.

*Digestive:* Ileus, pancreatitis, hepatitis (hepatocellular or cholestatic jaundice), melena, anorexia, dyspepsia, constipation, glossitis, stomatitis, dry mouth.

*Musculoskeletal* Muscle cramps.

*Nervous/Psychiatric* Oepression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

*Urogenital* Renal failure, oliguria, renal dysfunction (see PRECAUTIONS and DOSAGE AND ADMINISTRATION).

*Respiratory* Bronchospasm, rhinorrhea, sore throat and hoarseness, asthma, upper respiratory infection.

*Skin* Exfoliative dermatitis, toxic epidermal necrolysis, Stevens-Johnson syndrome, herpes zoster, erythema multiforme, urticaria, pruritus, alopecia, flushing, hyperhidrosis.

*Special Senses* Blurred vision, taste alteration, anosmia, tinnitus, conjunctivitis, dry eyes, tearing.

A symptom complex has been reported which may include a positive ANA, an elevated erythrocyte sedimentation rate, arthralgias/arthritis, myalgias, fever, serositis, vasculitis, leukocytosis, eosinophilia, photosensitivity, rash, and other dermatologic manifestations.

*Angioedema* Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

*Hypotension* In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause for discontinuation of therapy in 1.9% of patients with heart failure. (See WARNINGS.)

*Clinical Laboratory Test Findings*

*Serum Electrolytes:* Hyperkalemia (see PRECAUTIONS), hyponatremia.

*Creatinine, Blood Urea Nitrogen* In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation of VASOTEC and/or other concomitant diuretic therapy, were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients.

*Hemoglobin and Hematocrit:* Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g% and 1.0 vol %, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% of patients discontinued therapy due to anemia.

*Other (Causal Relationship Unknown)* In marketing experience, rare cases of neutropenia, thrombocytopenia, and bone marrow depression have been reported. A few cases of hemolysis have been reported in patients with G6PO deficiency.

*Liver Function Tests* Elevations of liver enzymes and/or serum bilirubin have occurred.

**Dosage and Administration:** *Hypertension.* In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, if possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) If the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed.

If the diuretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*)

The recommended initial dose in patients not on diuretics is 5 mg once a day. Oosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses. In some patients treated once daily, the antihypertensive effect may diminish toward the end of the dosing interval. In such patients, an increase in dosage or twice-daily administration should be considered. If blood pressure is not controlled with VASOTEC alone, a diuretic may be added.

Concomitant administration of VASOTEC with potassium supplements, potassium salt substitutes, or potassium-sparing diuretics may lead to increases of serum potassium (see PRECAUTIONS).

*Dosage Adjustment in Hypertensive Patients with Renal Impairment* The usual dose of enalapril is recommended for patients with a creatinine clearance > 30 mL/min (serum creatinine of up to approximately 3 mg/dL). For patients with creatinine clearance ≤ 30 mL/min (serum creatinine ≥ 3 mg/dL), the first dose is 2.5 mg once daily. The dosage may be titrated upward until blood pressure is controlled or to a maximum of 40 mg daily.

*Heart Failure* VASOTEC is indicated as adjunctive therapy with diuretics and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose of VASOTEC, the patient should be observed under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*) If possible, the dose of the diuretic should be reduced, which may diminish the likelihood of hypotension. The appearance of hypotension after the initial dose of VASOTEC does not preclude subsequent careful dose titration with the drug, following effective management of the hypotension. The usual therapeutic dosing range for the treatment of heart failure is 5 to 20 mg daily given in two divided doses. The maximum daily dose is 40 mg. Once-daily dosing has been effective in a controlled study, but nearly all patients in this study were given 40 mg, the maximum recommended daily dose, and there has been much more experience with twice-daily dosing. In addition, in a placebo-controlled study which demonstrated reduced mortality in patients with severe heart failure (NYHA Class IV), patients were treated with 2.5 to 40 mg per day of VASOTEC, almost always administered in two divided doses. (See CLINICAL PHARMACOLOGY, *Pharmacodynamics and Clinical Effects.*) Oosage may be adjusted depending upon clinical or hemodynamic response. (See WARNINGS.)

*Dosage Adjustment in Patients with Heart Failure and Renal Impairment or Hyponatremia:* In patients with heart failure who have hyponatremia (serum sodium < 130 mEq/L) or with serum creatinine >1.6 mg/dL, therapy should be initiated at 2.5 mg daily under close medical supervision. (See DOSAGE AND ADMINISTRATION, *Heart Failure*, WARNINGS, and PRECAUTIONS, *Drug Interactions.*) The dose may be increased to 2.5 mg b.i.d., then 5 mg b.i.d. and higher as needed, usually at intervals of four days or more, if at the time of dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

*For more detailed information, consult your MSD Representative or see Prescribing Information, Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, PA 19486.* J9VS61R2(820)

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# Doctor to patient communication

In this issue of the *Journal* we have a letter-to-the-editor that we hope will impress our physician readers and that they will take to heart.

It is a model of communication that furthers rapport between a physician and his patient. Unfortunately, it severs a relationship, but at the same time it builds a bridge of confidence; the patient remaining behind when the doctor leaves does not feel abandoned.

There is a great deal lacking in the way we communicate, professionally speaking, in our dealings not only with our patients but also in the way we communicate with each other about our patients.

It is our pleasure to acquaint Gary Glober's many friends in the profession with his new address through the pages of the *Journal*. It is:

Gary Glober MD
Section of Gastro-Intestinal Oncology
and Digestive Diseases
University of Texas
M.D. Anderson Cancer Center
1515 Holcombe Boulevard
Houston, Texas 77030

We wish Gary well in his new endeavors and we appreciate the fact that he wishes to maintain contact with us in Hawaii via a *Journal* subscription.

J.I. Frederick Reppun MD
Editor

# Living Wills

Although we have published extensive comment in the pages of the Journal on PVS: The Persistent Vegetative State (HMJ, 1990, May 49/5:149, June 49/6:181and October 49/10:375), we were impressed with the presentation by attorney Jeff Crabtree at HMA's 134th Annual Meeting and Scientific Session on October 14, 1990.

He addressed us on the subject of Living Wills and it was all the more poignant and effective because of his own, very personal experience with his mother's case. Four and a half years after she fell off a cliff and was critically injured and in a permanent vegetative state, Jeff initiated proceedings to have the legal and moral right to withdraw an NG tube and cease artificial feedings. It took only 3 months for the court case to be resolved —a far cry from the 7+ years (and no resolution yet) since Nancy Cruzan went into PVS and perhaps 3 years since her family took her case to court in Missouri.

Jeff told us at the HMA session that the national legal debate is finally over. The fundamental right to deny all treatment, including artificial feeding and hydration, is now accepted.

It is no longer tenable for a physician to impose his own moral or religious beliefs on the patient, Jeff said. In fact, he knows of 4 cases of physicians being sued for persisting in maintaining the support systems in the face of contrary wishes of the patient. And, no physician has ever been jailed for being involved in such withdrawal of life support, Jeff reported. The physician's own liability may be increased in the future if he does not offer his patient the opportunity to execute a Living Will. For his, the physician's, own protection, all he has to do is to write in the medical record that he did suggest it to his patient.

The bottom line is that finally it is granted by the legal system that "the patient has the ultimate right."

In this issue of the *Journal*, lawyer Jeff Crabtree has collaborated with our own Steve Wallach MD, past-president of the HCMS, president-elect of the HMA, who has long been active in the legislative and educational efforts of the HMA regarding Hawaii's Living Will law, in writing the article "Living Wills and the right to die." The well-composed treatise should close the case on the subject.

The model "Living Will Declaration" and the accompanying "instructions" to the patient, that Jeff Crabtree has appended, should be most helpful to our community of medical practitioners.

J.I. Frederick Reppun MD
Editor

# Generic Drugs

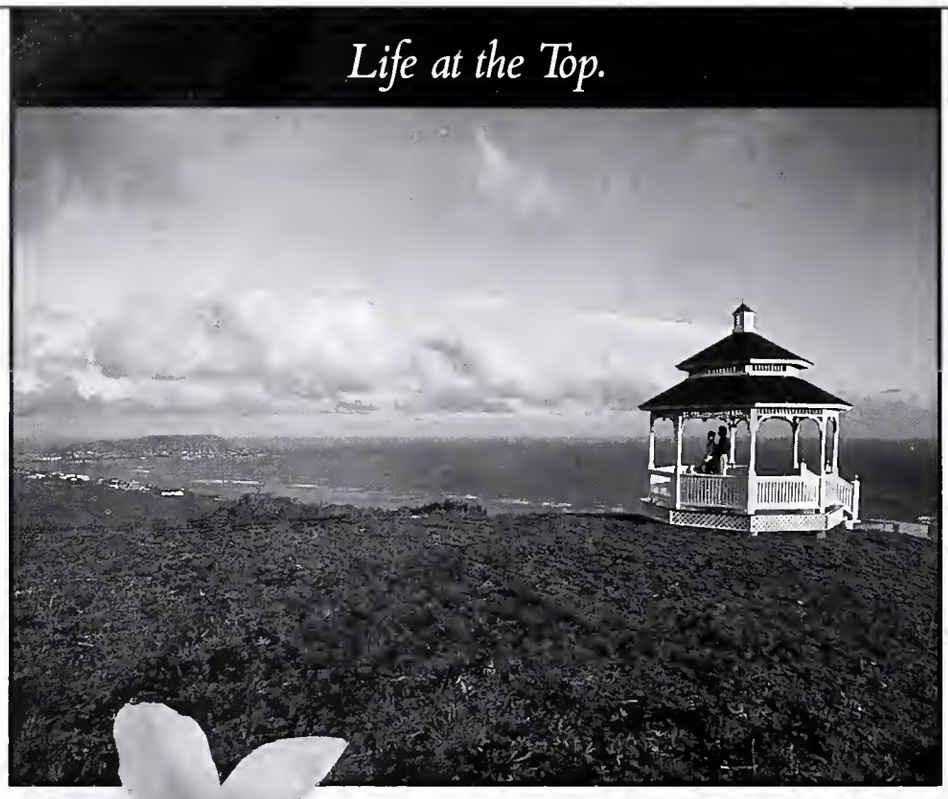
The following is abstracted from a letter we wrote to Mr. Keith Fukumoto of the Hawaii State Legislative Reference Bureau. Fukumoto met with a few of us at HMA on 14 August 1990 on the subject of:

## SCR 242 On the Use of Generic Drugs

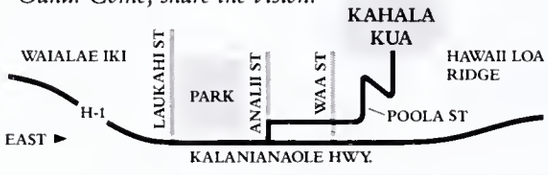
Dear Mr. Fukumoto,

Having given testimony before Senator Anthony Chang's committee during the recent legislative session, having studied the White Paper of the American Academy

*(Continued on page 451)* ▶




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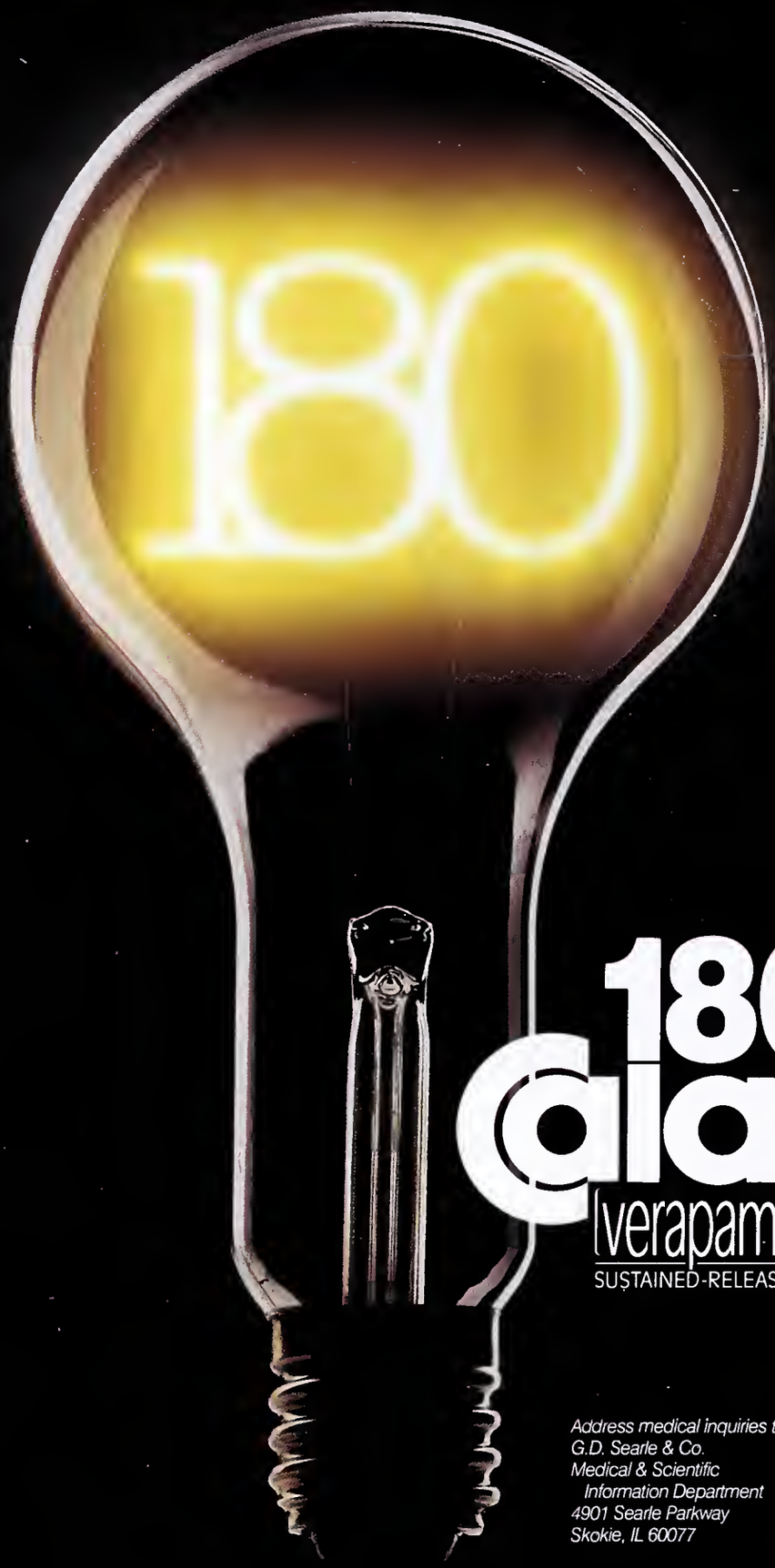

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of Family Physicians and having been in general practice on Lanai, Molokai and Oahu for many years, I feel I can speak based on some knowledge of the subject.

In essence, and very briefly, I feel that:

(1) The physician is ultimately and solely responsible (to the patient) for what is written on the prescription to the pharmacist.

(2) To have to write *"Do not substitute"* is to state a negative; it takes time, effort and energy; it costs money, therefore, which escalates the costs of medical care; it creates confusion and possible serious error when prescriptions need to be refilled; it puts the responsibility and the liability on the shoulders of the pharmacist, which shouldn't be; and, lastly, it puts the patient in jeopardy if the pharmacist substitutes in the absence of the negative.

(3) The government and third parties are trying to influence the physician by "pushing, shoving, persuading forcefully, or arm-twisting" (whatever you want to call it) doctors to cut costs against their best judgment; QUALITY of care is inexorably bound to suffer to a greater or lesser degree.

(4) We physicians have had enough experience with the FDA to know beyond any question of a doubt that it is impossible for the FDA to examine all the thousands of drug products made by the hundreds of manufacturers; that the examination cannot go beyond *bioavailability*; what we need to know is therapeutic equivalency; and, that we have faith and trust in the brand-name drugs because we know that the reputation of the company that makes the product is based on its QUALITY.

(5) Every physician develops his or her own personal "feel" for certain therapeutic measures, based on experience; we each have our "pet" remedies based on the results we've obtained in prescribing drugs for our patients; we often prescribe generic drugs instead of brand-name; it depends in each and every case on our experience, our accumulated knowledge and the many sources of re-education of which we avail ourselves. This all boils down to (1) above: Namely, that to *make* us do by legislation what we would not otherwise do to our patients is basically wrong. The responsibility to prescribe what is best for a particular patient — and to "non nocere, to do no harm — is our responsibility, ours alone, *without any legislative compulsion.*

J.I. Frederick Reppun MD
Editor

## Errata

The last sentence of the first paragraph of the article "Methamphetamine in Psychiatric Emergencies" (*HMJ*, October 1990, page 389) should read:

"The increasing use of methamphetamine together with its ability to produce severe dysfunction is a major concern of professionals and communities alike in terms of treatment.

---

The poem, "To the Class of '90" by Robert S. Flowers, MD (*HMJ*, October 1990, page 402) was omitted from the Table of Contents.

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Kalama (Johnston Atoll) is 825 miles Southwest (not Southeast) of Hawaii (*HMJ*, November 1990, page 414).



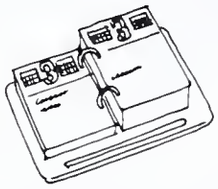

Dear Colleague:

I will be closing my practice on October 16, 1990 as my family and I are moving to Houston where I will be an Associate Professor of Medicine at the University of Texas M.D. Anderson Cancer Center. I first came to Hawaii in 1967 to create the Japan-Hawaii Cancer Study for the National Cancer Instititue before opening my office in 1973. I have enjoyed the private practice of Gastroenterology but am excited at the prospect, at this time in my medical career, of doing research and training gastroenterologists on a full-time basis. The M.D. Anderson Cancer Center wants me to investigate ethnic cancer differences similar to my N.C.I. projects here. Ultimately, I hope to collaborate with studies in Hawaii.

I have written the patients whom I have seen within the past five years to contact their primary care physician for a new gastroenterologist. Also, I listed the dates of their follow-up endoscopic procedures. If you have any questions, please contact me before October 16th.

I have enjoyed working with you. Hopefully, we will meet again during one of my research trips to Hawaii. I appreciate very much of all your cooperation and good-will throughout the years.

Much aloha to you and your staff,
Gary Glober MD



# Continuing Medical Education

The Hawaii Medical Association does not review or evaluate the programs listed in the Hawaii Medical Journal Continuing Medical Education column and assumes no responsibility for educational value, scientific content, changes in agenda or cancellations.

## LOCAL ACCREDITED PROGRAMS ONGOING

For a complete list of ongoing programs, please refer to the September 1990 edition of the HAWAII MEDICAL JOURNAL. Further information is available through the individual institutions or through the HMA's CME Department.

## SPECIAL EVENTS

All special events should be confirmed with the CME program sponsors, as cancellations are not necessarily reported to the HAWAII MEDICAL JOURNAL.

**DECEMBER, 1990**

12-8/12-15

**5th Annual Critical Issues in Urology; Impotence, Infertility & Stones.** Contact: Jim Goodrich, Symposia Medicus, 2815 Mitchell Dr., Ste. 128 Walnut Creek, CA 94598-1622, (415) 935-7889. Location: Hyatt Regency Waikoloa, Big Island of Hawaii.

12-24/12-30

**Advances in Medicine '90.** Contact: Symposium Maui, Inc., P.O.Box 833 Makawao, HI 96768, (808) 878-6757 or (808) 6618032. Location: Royal Lahaina Resort, Kaanapali Beach, Maui.

**JANUARY, 1991**

1-17/1-18

**Pesticides and Medicine in Hawaii.** Contact: Hawaii Medical Association, 1360 S. Beretania St., 2nd Fl., Honolulu, HI 96814. Location: Ala Moana/Ramada Renaissance Hotel.

1-19/1-26

**Pediatric Trauma.** Contact: E. Bookstein (619) 454-3212, Scripps Memorial Hospital, Box 817 Encinitas, CA 92024-0817 Location: Kona, Hawaii

1-28/2-1

**Ninth Annual Hawall Conference on GI & Hepatic Diseases.** Contact: Dr. Glover (808) 536-1021 Hawaii Medical Association, 1360 S. Beretania St., 2nd Fl., Honolulu 96814. Location: Wailea, Maui.

**FEBRUARY, 1991**

2-4/2-23

**UH Orthopaedic Residency Training Program.** Sponsored by Robert T. Wong MD, Lectureship Endowment. Contact: Clifford Straehley MD, UH Surgical Residency Program 521-7943. Location: Honolulu.

2-11/2-14

**Otolaryngology Update.** Sponsored by the Institute of Facial Surgery. Contact: Leslie Bernstein (916) 923-0820, 777 Scripps Drive, Sacramento, CA 95825. Location: Hilton Hawaiian Village, Waikiki.

2-11/2-15

**Contemporary Diagnostic Imaging.** Contact: M. Ryals (404) 641-9773. Stanford University School of Medicine, Stanford, CA 94305. Location: Mauna Lani, Hawaii.

2-11/2-15

**Sixth Annual Cardiovascular Conference at Hawaii.** Contact: Registration Secretary (301) 897-5400 American College of Cardiology, 9111 Old Georgetown Rd, Bethesda, MD 20814 Location: Kohala Coast, Hawaii.

2-15/2-18

**Hawaii '91: Update Family Practice.** Sponsored by Hawaii Academy of Family Physicians. Contact: Mrs. Marlies Farrell, (808) 235-3115. Location: Sheraton Waikiki.

2-22/2-25

**Kauai Calls: People Caring for People.** Contact: Jack Burak, M.D., College of Family Physicians of Canada, B.C. Chapter, Suite 115-1665 West Broadway, Vancouver, B.C. V6J 5A4 Canada. Location: Kauai.

2-24/2-29

**Hawaii 1991: 6th Annual Advances in Primary Care.** Contact: Valerie Murray, (808) 742-7411. P. O. Box 1059, Koloa, HI 96756. Location: Stouffer Waiohai Resort, Kauai.

2-27/2-28

****1991: 6th Asia Pacific Conference on Pulmonary Rehabilitation and Mechanical Ventilation.** Contact: Kris Hara, RRT, Pulmonary Services, Kuakini Medical Center, 347 N. Kuakini St., Honolulu, HI 96817, (808) 547-9532. Location: Pacific Beach Hotel, Waikiki.
Honolulu.

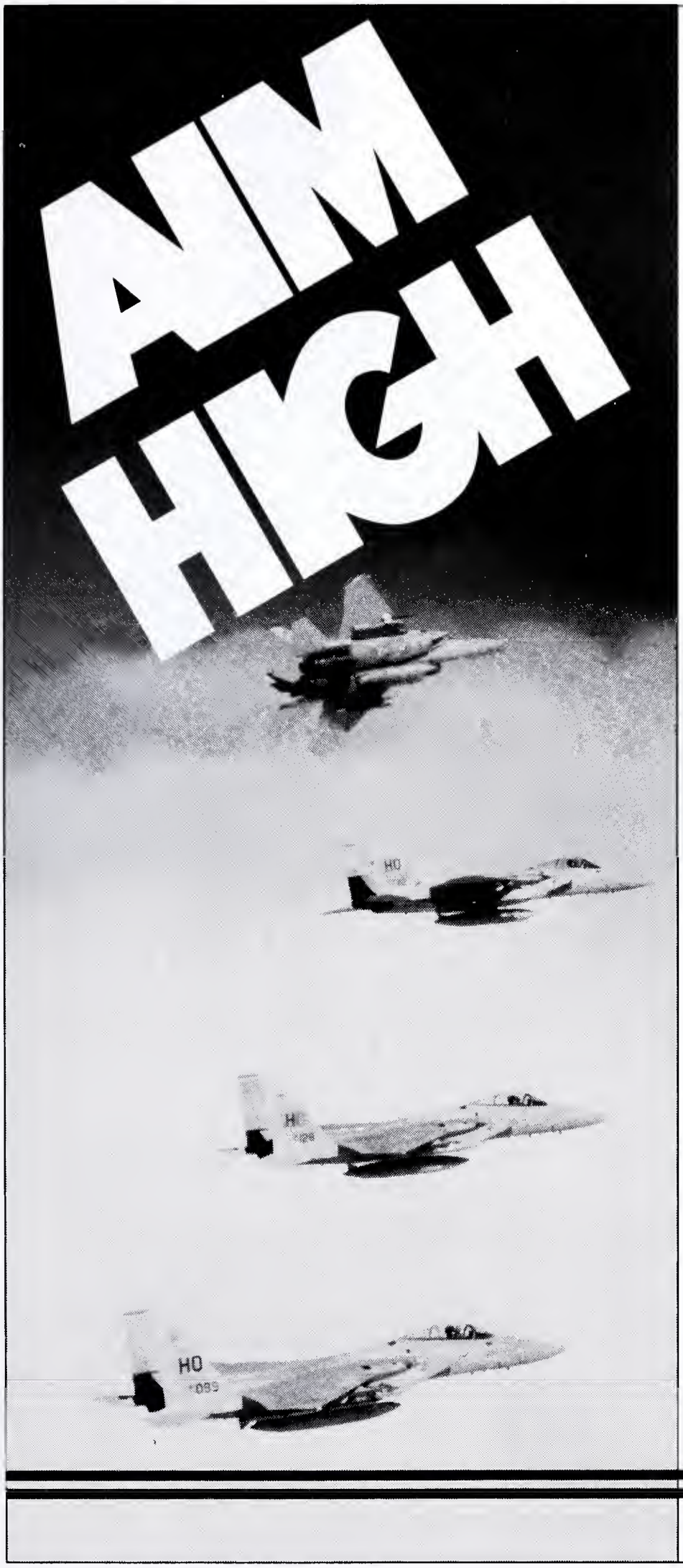
**MARCH, 1991**

3-3-/3-8

**A Week of Sports Medicine: Taught the Way It Should Be.** Contact: Valerie Murray (808) 742-7411. P.O.Box 1059, Koloa, HI 96756. Location: Stouffer Waiohai Conference Facility, Kauai.



"I found out your accident policy covered falling off the roof all right, but not hitting the ground."




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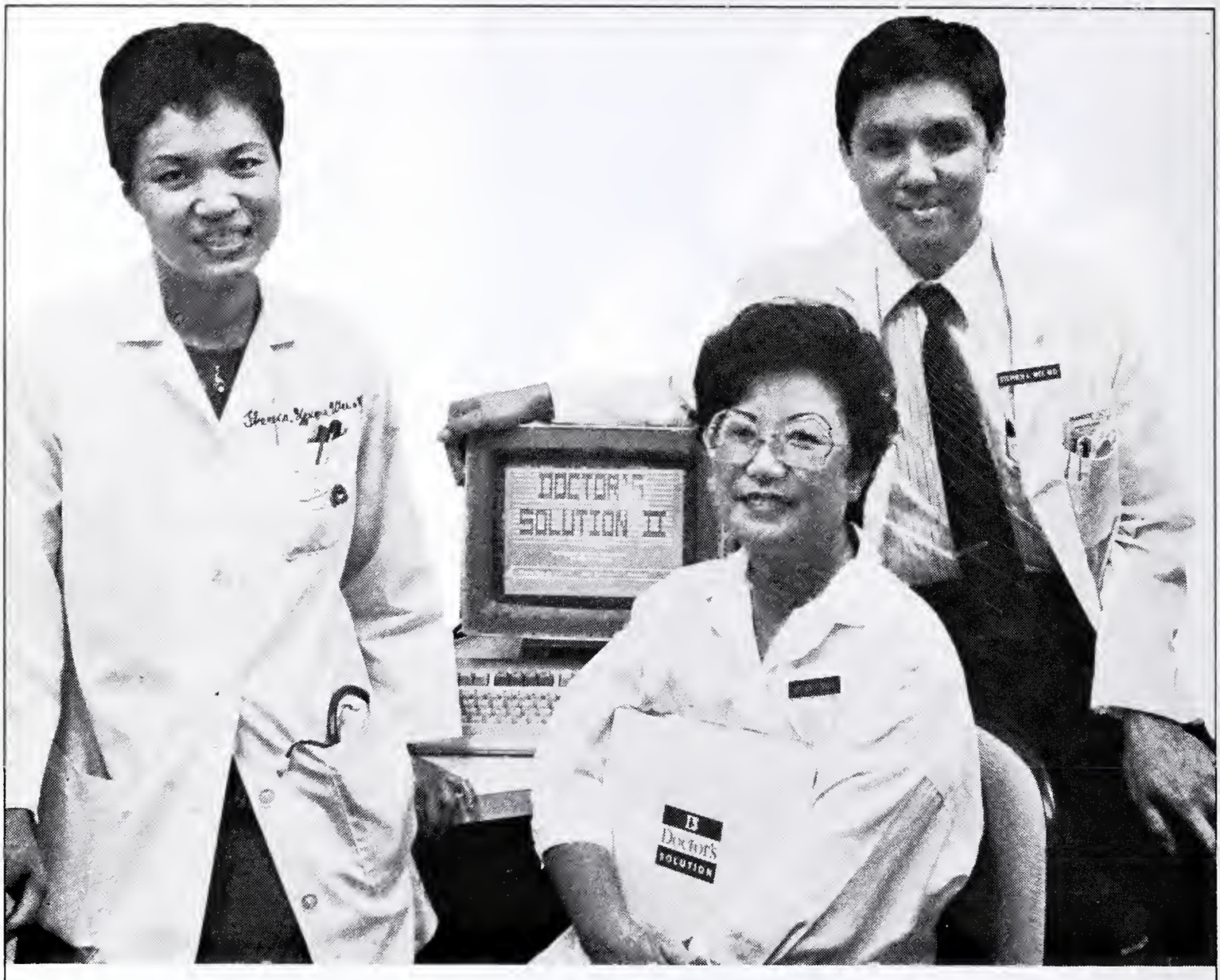
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# The rising cost of medical care*

J I Frederick Reppun MD**

**The givens**

For all its faults, the United States provides its citizens with the best medical care in the world: in fact, much of the rest of the world looks upon our medical centers as the acme of sophisticated medical care.

We in this country, however, are not satisfied with the way things are going. There is a national concern over the rising costs of medical care, coupled with the admission that there is an increasing gap between those of our people who are well off financially and can afford the best, and those who suffer from the inability to have access to that quality care.

This gap is epitomized by the statistic bandied about — the 37 million people whose likelihood of illness and injury is not covered by medical insurance. This gap lies between the top and the bottom of our society, the bottom being the poor and the elderly whose needs are covered by Medicaid and Medicare but only to a certain extent.

This is not to say that we in this society are not trying to remedy the situation. Indeed we are, except that we have trouble with our priorities — where to put our tax dollars: For better education? For more low-cost housing? For a more assured social security? For less destruction of our environment? For a more efficient use of needed energy? For less emphasis on support of the wasteful military? We could go on and on in this litany.

We have a federal law that mandates employers to fund medical care for their employees (Hawaii had one first, please note), except that a loophole allows employers to hire people who work less than 20 hours a week[1].

Here in Hawaii, thanks to our Director of Health Jack Lewin MD who was the sparkplug for the idea, and our State Legislature, we now have SHIP — the State Health Insurance Program designed to provide basic access to medical care, with dollar limits, for the gap group that have no insurance coverage, estimated as 5% of our population. Nevertheless, its restrictions are many[2].

**The health crisis**

So! We have a so-called health crisis.

Emmanuel Margolis, doctor of medicine and public health with the Kirby Forensic Psychiatric Center in New York, addresses the contention that we are paying too much as a nation for the benefits instigated by President Lyndon Johnson's Great Society[3], and I quote:

> "If 37 million people in the U.S. still do not have medical insurance of any kind and 20 million have inadequate Medicaid support, as is the case, then that is too much. If 30% of the children in America have never seen a dentist, and 600,000 women gave birth last year with little or no prenatal care, as is again the case, this is too much, too."

Margolis puts it this way:

> "Our 'crisis' implies three things: That there are benefits that must be given out — like food and water in a lifeboat [full of people]; that the supply of benefits is insufficient to include everybody — not enough food and water to let all survive; and that nothing can be done to increase the supply. If this indeed is the situation, there is nothing else to do but set priorities as to who needs to be pushed over the side of the boat."

As an aside, my response to Margolis would be that this approach — in terms of his analogy — is that it is contrary to the law of the sea. However, it does illustrate the extreme form of rationing of medical care: The cut-off, the inhumane "let him die" concept. There is another way: Spread the food and water more thinly among all — but that also means rationing. I cannot accuse Margolis of being callous and inhumane, because later on he states:

> "If we think we cannot [do this], then we have to do what some less wealthy civilized nations do — make more care available, with what we have, to serve those who are unserved or underserved."

**The problem**

Daniel Callahan PhD, the Director of the Hastings Center for Bio-ethics in New York, puts it clearly[4]: Patients, doctors, hospitals and even the administrators on up the line say: "I want the newest and the best; I want all the amenities, all the innovative technologies." It's the DEMAND!

Every disease should be cured; every disability rehabilitated completely; every health need met and aging and death challenged, say the American people.

And, in the name of freedom of choice, we are all hostile to health care planning and to control by those in authority. In

*(Continued)* ▶

*Presented to the Health Issues Committee, Earle Fedje chairman, of the Honolulu Chamber of Commerce, on 4 September 1990.

**In Family & General Practice
45-461 Pua Inia St.
Kaneohe, Hawaii 96744

Callahan's words, we all say

> "Choice is better than constraint;
> Individual freedom better than government regulation;
> Capitalism better than socialism;
> Quality better than mediocrity."

Arnold Relman MD, respected but opinionated and sometimes controversial editor of the prestigious *New England Journal of Medicine,* tells us that the payers: Government, business, insurance (to which I add the big unions) are "at the end of their rope"[5]. Consequently, "there is a growing morass of regulation and bureaucracy, of surveillance of physicians and of surveillance of admissions to hospitals." He blames this on an unrestrained demand by the consumer — the patient — as well as the development of ever more sophisticated technology, there for the asking.

If any of you in the audience want more data, I suggest you look up and read the article in the Honolulu Star-Bulletin of March 5 this year, excerpted from the NY Times: *Soaring Health Costs Raising Concerns.* It is full of statistics on the problem.

**Not only here!**

The American Medical Association held its annual interim meeting here in Honolulu in December 1989. It began with its Forum, a morning-long session on one medico-socio-economic topic. This particular one was on the subject at hand, addressed by a panel of speakers from Britain, France, Ireland and Canada, as well as an American representative of the National Association of Manufacturers. As you know, the UK has had socialized medicine for 70 years.

The session was illuminating; every single nation represented had a like problem, despite the vagaries of their health care systems: *Demand too great for the amount of dollars budgeted.* The result, rationing in one form or another and the consequent diminution of quality care, ie toward mediocrity.

The inaccurate figures bandied about indicate that "health care" in the U.S. costs somewhat less than 12% of our GNP. In the UK it is 15%, and there is an increasing push in Britain to make it less "socialized"! In France it is 8.6%, in Germany 8% and in Ireland 6%. In Canada it is increasing and now 8.6% of its GNP[7].

There has been over many years in our Congress a waxing and waning of an intent to introduce socialized medicine in this country. Medicare and Medicaid are a form of it that have succeeded but only for certain segments of our society. Lately, there has been a surge of Congressional and Administration sentiment to emulate the Canadian model, its National Insurance Program.

In my opinion, one gets a good look at it from reading Canadian physician William Goodman's address at the 46th annual meeting of the American Physician & Surgeons on September 21, 1989 in Orlando, Florida. Goodman warns us in the U.S. that "the Canadian-style edifice is built on sand"[8]. I must read you one or more of his 21 "Canadian Vignettes: True Stories of 'Universal Access'" that proponents claim is the basic attribute to the Program. As you listen, please realize that whereas we here in the U.S. are said to have worked for the government from January 1 to May 3 last year, in Canada people worked for their government until July 7!

> "3. *You're sick and need cardiac bypass surgery,* but the list of patients waiting for similar and sometimes more urgent surgery is so long that your hospital admission is postponed 11 times in the year before you finally come to surgery. Or you die of cardiac disease before your turn comes up. This has happened to many patients.
>
> "4. *You need an elective procedure like a lens implant or hip transplant.* Since your hospital has used up the annual allotment that the government allows, you are willing to pay the cost of the prosthesis yourself, rather than waiting ten months or a year until the hospital receives a new allotment. The answer is no. *The government will not allow you to pay for your own procedure, and it is illegal for a doctor or hospital to participate in such a queue-jumping measure.* (Interestingly enough, if you're an American or other foreigner who has seen fit to come to Canada at your own expense for the surgery, it is permissible.)
>
> "As Professor Arnold Aberman put it:
>
> "The monopoly on health care exercised by the government here is such that, if the government decides that it can't afford it, [Canadians] are not allowed [privately] to buy it.
>
> "The only way for Canadians to get around this idiotic rule is to leave the country to go to the USA for the diagnostic or therapeutic modality they require.
>
> "7. *You're a 37-year-old pregnant physician* in Vancouver and believe that you should have an amniocentesis to rule out genetic abnormalities in the fetus. By government edict, local doctors and hospitals cannot perform it, *even if you're willing to pay the total cost yourself,* unless you are over a certain age or have a specific history of genetic abnormalities. So you have to cross the border to Seattle if you wish to have the procedure, at considerable added expenditure of both time and money, not reimbursed by our government medical plan."

**How bad is it here?**

So far, despite the plethora of regulations and constraints, we have not succeeded in slowing the escalation in the costs of health care; that too, is a given.

It should be obvious that slowing, much less stopping, the development of ever more new and more sophisticated technology for medical care is neither possible nor desirable (we can't even put the atomic genie back into its nucleus! Or stop the spread of nuclear weaponry!)

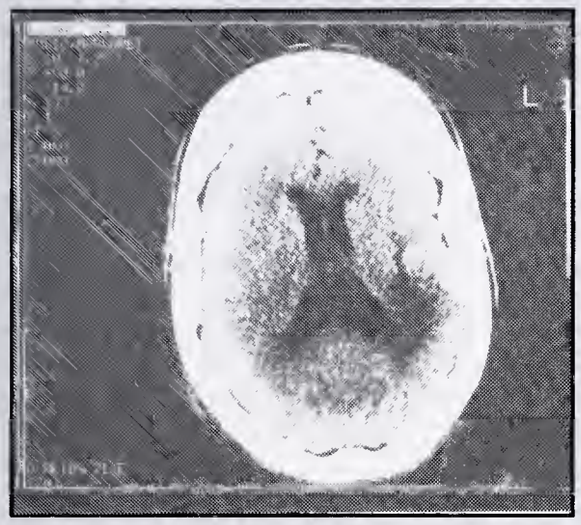
Can we do any better in restraining demand? Medical care of the elderly is the most costly, they say, but the elderly are increasing in numbers and they all are activists and voters, whereas the younger ones are apathetic in the political arena[9]. (With apologies to my friend Earle Fedje, I must teli you that I think "liability insurance", per se, provides the pot of gold

*(Continued)* ▶

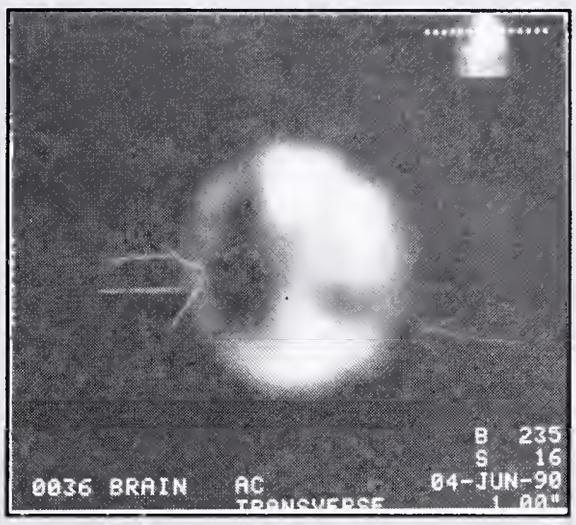
# Nuclear Medicine Teaching File

## Technetium HMPAO SPECT Brain Imaging

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1. CT study in this 71 year old female shows a small infarct of indeterminate age in the left parietal lobe.




2. HMPAOP
O scan on the same day shows a large right middle cerebral artery infarct (large arrow) in addition to the left parietal lobe infarct small arrow).




3. Transaxial view showing an infarct of the right frontal lobe and right basal ganglia in this 70 year old female with left sided weakness and confusion.




4. Coronal view in the same patient.

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into which people cannot resist dipping their grasping hands. "Why did you go to the hospital's ER last night, instead of calling me?' I ask the patient, "don't you know it costs a lot more?" "That's OK," came the quick answer. "My insurance will pay for it.")

It should be obvious to all of you by now that "rationing" of medical care is already with us in many forms, such as Medicare, Medicaid, HMOs, etc., medical insurance plans including SHIP, Champus, in the military, at Kaiser and at HMSA [did you know HMSA is a monopsony?[10]], even in no-fault and in Workers Comp.

As Relman puts it, there is rationing through limited accessibility to medical care — by distance or by lack of dollars; by "managed care" which is the euphemism for rationing; and most recently, by deliberate denial of specific items because of their cost.

**What is our role as physicians?**

Way back when ... the physician was constrained by the medical ethic to serve only one master, his patient. The physician served the medical needs of his patient to the best of his ability and the patient fulfilled his end of the contract by paying for the service an amount agreeable to both.

As insurance and third party payers got into the picture, the physician gradually came to serve two masters; he had to conform to the patient's plan. The physician had not only to consider what was medically best for his patient but also to weigh-in what his insurance plan allowed. In the presence of the current multiplicity of third party interjection, the physician is beset with these pressures, albeit he still considers himself to be the patient's advocate as the patient tries to find his way through the bureaucratic maze.

We physicians have allowed ourselves to be so "managed"; we let the foot in the door when we formed groups and generated a communal master. The market place has taken advantage of our ineptitude in the business part of medicine. What we used to do for charity has been taken away from us, although most of us still are charitable in our dealings with the poor and the burdened. They say the average doctor contributes for free some 150 hours a year — about 2 or 3 weeks of time. It is miniscule as compared with what it was when I graduated from Harvard Med 51 years ago. I think the 150-hour estimate is far too low even now. We feel charitable to our patients, but have absolutely none for the insurance industry, the government or business. How many here in this room would be willing to accept 56 cents on the dollar for your goods or services? That's what we get paid for seeing a Medicaid "client". Under all the various forms of managed care, we are being asked to discount our charges, as compared with the very few segments of our business community that are so constrained. Being still charitable, 51% or more of the practicing physicians of Hawaii have signed up so far to service SHIP patients — for discounted fees.

What galls us even more is that legislative bodies have enacted laws that forbid us from colluding in order to work out customary, reasonable and usual fee schedules within our profession. We in Hawaii did it once — in 1970; we have not been allowed to update or revise it since then.

We have been constrained by litigation from policing our members, from trying to reform by education, much less to eradicate the bad apples in our barrel. We have been hampered by the inordinate amount of litigation based on alleged malpractice, when most of the time it is a mal-happentance. Here again it is the pot of gold of the insurance premiums that triggers the suits.

Surely you can understand that all this puts us into an adversarial position anent third party, government and corporation lawyers.

**The solution**

I do not deign to propose one in the presence of a national debate over the issue, except to say that from what I have read and heard so far, we physicians should be invited by government and by business to sit down with them in the planning process, instead of being handed a new regulation down from DHHS as a fait accompli and fraught with work, energy, time and dollars to be expended by us — for no pay. Wasn't the American Revolution fought because of King George's edict favoring indentured servitude?

As one writer to the NEJM put it in his LTTE: "Economic decision-making by physicians is preferrable to the menace of a non-physician making clinical decisions camouflaged as cost-control or quality assurance"[11].

There is undoubtedly a lot that we as physicians can do reasonably in the way of "minding the patient's pocketbook" as much as we care for his health, but the latter always must come first. One suggestion — off the top of my head — is that all orders and requisitions for laboratory, x-ray and other tests have imprinted on them the range of costs of each. All we ask is that we be included in the making of health care policy and that our suggestions be listened to.

As for the rationing of medical care no matter in what guise, we are against it, on behalf of our patients. We remain their advocates and we try to avoid the conflict of interest inherent in serving two masters by practicing the ethic that "the best interest of the patient always comes first."

Our objective is NO rationing by cost-control or by any other means. What's wrong with the percentage of GNP for health care going up to 25% if it results in a healthier, happier nation? ■

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Dr. Holwick outside of hospital where she practices as a civilian traumatologist.



Dr. Holwick in operating room at Letterman Army Medical Center.

## JANN L. HOLWICK, M.D.

General and Trauma Surgeon.
Captain, U.S. Army Reserve.

**EDUCATION** University of Southern California, B.S.
University of California School of Medicine.

**RESIDENCY** Harbor General Hospital—UCLA Medical Center.

**HOSPITAL AFFILIATIONS** St. Luke Hospital; Huntington Memorial Hospital, Pasadena, California; Traumatologist, Arcadia Methodist Hospital, Arcadia, California.

**OUTSTANDING ACHIEVEMENTS** Borden Freshman Prize; Alpha Lambda Delta; Phi Beta Kappa; Phi Kappa Phi; Bovard Award; ALD Award; American Institute of Chemists Medal Award; Summa Cum Laud University of California; Alpha Omega Alpha.

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*Am Fam Phys* 1987;36:133-140

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**Contraindication:** Known allergy to cephalosporins.
**Warnings:** CECLOR SHDULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

**Precautions:**
• Discontinue Ceclor in the event of allergic reactions to it.
• Prolonged use may result in overgrowth of non-susceptible organisms.
• Positive direct Coombs' tests have been reported during treatment with cephalosporins.
• Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
• Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
• Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

**Adverse Reactions:** (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:
• Hypersensitivity reactions have been reported in about 1.5% of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of **serum-sickness-like** reactions have been reported with the use of Ceclor. These are characterized by findings of erythema multiforme, rashes, and other skin manifestations accompanied by arthritis/arthralgia, with or without fever, and differ from classic serum sickness in that there is infrequently associated lymphadenopathy and proteinuria, no circulating immune complexes, and no evidence to date of sequelae of the reaction. While further investigation is ongoing, **serum-sickness-like** reactions appear to be due to hypersensitivity and more often occur during or following a second (or subsequent) course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults with an overall occurrence ranging from 1 in 200 (0.5%) in one focused trial to 2 in 8,346 (0.024%) in overall clinical trials (with an incidence in children in clinical trials of 0.055%) to 1 in 38,000 (0.003%) in spontaneous event reports. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy; occasionally these reactions have resulted in hospitalization, usually of short duration (median hospitalization = two to three days, based on postmarketing surveillance studies). In those requiring hospitalization, the symptoms have ranged from mild to severe at the time of admission with more of the severe reactions occurring in children. Antihistamines and glucocorticoids appear to enhance resolution of the signs and symptoms. No serious sequelae have been reported.
• Stevens-Johnson syndrome, toxic epidermal necrolysis, and anaphylaxis have been reported rarely. Anaphylaxis may be more common in patients with a history of penicillin allergy.
• Gastrointestinal (mostly diarrhea): 2.5%
• Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
• As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
• Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
• Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1% and, rarely, thrombocytopenia and reversible interstitial nephritis.

Abnormalities in laboratory results of uncertain etiology.
• Slight elevations in hepatic enzymes.
• Transient lymphocytosis, leukopenia, and, rarely, hemolytic anemia and reversible neutropenia.
• Rare reports of increased prothrombin time with or without clinical bleeding in patients receiving Ceclor and Coumadin concomitantly.
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# Living Wills and the right to die

Steven J. Wallach MD*
Jeff P. Crabtree Esq**

*Two recent court decisions clarified whether and under what circumstances a patient may refuse life-sustaining medical treatment, including food and water. The Nancy Cruzan case, decided by the U.S. Supreme Court on June 25, 1990, and the case of Shirley Crabtree, decided by Family Court Senior Judge Daniel G. Heely in Hawaii on April 26, 1990, had differing outcomes. Moreover, Hawaii has a living will statute which purports to place limits on when and whether a person may choose to die rather than live in a severely disabled condition. This article will summarize the current law, and will offer practical advice to physicians on how to deal with these sensitive issues that affect their patients.*

**The Nancy Cruzan case**

Nancy Cruzan was severely brain-damaged following an auto accident. At the time of the court decision, she had been totally disabled (diagnosed as being in a coma or a persistent vegetative state "PVS") for more than 7 years. There was no likelihood her PVS would ever change. She was tube-fed, and was dependent upon others for every aspect of her care. Her life expectancy was another 20-30 years, however.

Nancy Cruzan did not have a Living Will or other document indicating whether she would want life-sustaining treatment withdrawn. After the accident she was unable to communicate her wishes. Before her accident, Nancy reportedly had had general conversations with family and friends, that she would not want to be kept alive in a severely disabled condition. Based on Nancy's prior statements, and based on her family's opinion that, knowing Nancy, she would not want to be maintained in her comatose condition, the family asked that the tube-feeding be withdawn, thus allowing Nancy to die.

The guardian ad litem (a person appointed by the court to represent the disabled person's interests) agreed with the request to withdraw food and water, as did the trial court. The Missouri Supreme Court, however, reversed the decision by a vote of 4-3, holding that Missouri law recognized a fundamental, superior societal value in preserving life, regardless of the quality of the life. This, combined with Missouri's requirement that the patient's wishes regarding withdrawal of life-sustaining treatment be shown by "clear and convincing" evidence, led the court to conclude that Nancy's tube feeding had to be continued.

The U.S. Supreme Court let the result stand by a 5-4 vote. Nancy Cruzan's family was not allowed to withdraw the tube-feeding. However, the Supreme Court specifically found that there is a federal constitutional right for a competent person to refuse life-sustaining treatment. The Court merely refused to reverse the Missouri rules about requiring "clear and convincing" evidence.

**The Shirley Crabtree case**

Shirley Crabtree suffered a serious brain injury while hiking on Oahu in 1986. Hawaii and California neurologists diagnosed her as being either in a persistent vegetative state, or one step above PVS. She did not have a Living Will or other document indicating what her wishes would be under such circumstances.

In most respects, her situation was the same as Nancy Cruzan's, with two important exceptions. First, Mrs. Crabtree, a former nurse, had told friends and family members in consistent statements over a 20-year span — statements more detailed and more current than those in the Cruzan case — that she would rather die than live in the type of condition she was in. Second, Hawaii law provides that if a person does not have a Living Will or other document showing whether the person wants life-sustaining treatment withdrawn, then "ordinary standards of current medical practice will be followed."

Shirley Crabtree's husband supported the termination of life-sustaining treatment, but died of cancer before the case ever went to court.

After obtaining the consent of his sister and his mother's physician, Jeff Crabtree, Mrs. Crabtree's son, filed a petition with the Family Court, requesting permission to withdraw all medical treatment, including food and water. Since Shirley Crabtree had not executed a Living Will, the trial centered around a) Mrs. Crabtree's own pre-accident statements and wishes, and b) what constitutes ordinary and acceptable standards of current medical practice in the circumstances of her case.

Witnesses included two neurologists, a cardiologist, two medical ethicists who sat on medical ethics committees in Hawaii, family friends and relatives. There was substantial testimony presented concerning the policy positions of the American Medical Association, the American Academy of Neurology, the 1983 President's Commission for the Study of Ethical Problems in Medicine, and various blue-ribbon national medical committees and other widely respected groups.

Judge Heely ruled, in his written opinion, that "the overwhelming, uncontradicted testimony in this hearing was that withdrawal of a nasogastric feeding tube is an accepted, ordinary, current medical practice in Hawaii under the facts of this case if that is the decision of the attending physician and family members." The Court found that "Shirley Crabtree's nasogastric tube is a medical treatment or medical procedure which a) merely keeps her alive when treatment is futile, b) does not provide her comfort or pain relief, c) is contrary to Shirley Crabtree's own previously stated beliefs and desires, and d) is contrary to the decisions of her family and guardian in consultation with her

*(Continued)* ▶

* Cardiologist
The Queen's Medical Center, Honolulu

** Attorney
Four Waterfront Plaza Suite 575
500 Ala Moana Boulevard
Honolulu, Hawaii

attending physician."

On the legal aspects of the case, Judge Heely went on to find that nothing in Hawaii's Living Will statute prohibited withdrawal of life-sustaining treatment. He went on to hold that regardless of any Hawaii statute, the right to privacy guaranteed under Hawaii's Constitution gives a patient a basic, fundamental right to refuse unwanted medical treatment.

The decision was filed April 26, 1990. On May 2, 1990, Jeff and his sister withdrew their mother's feeding tube. Mrs. Crabtree died in a supervised medical facility, without undue distress or discomfort, on May 8, 1990.

To summarize: There is now a U.S. Supreme Court decision holding that patients have a federal constitutional right to be free of unwanted medical treatment, as long as reasonable procedural requirements (as set by the states themselves) are met. The Crabtree decision in Hawaii, decided by the Senior Judge of the Family Court (where most such cases would be heard) goes even further, relying on Hawaii statutes and the Constitution of the State of Hawaii.

### What does this mean for physicians in Hawaii?

If you have a patient who is competent, that patient has a basic right to be free of unwanted medical treatment, including life-sustaining treatment, and including food and water. Tube-feeding is considered to be a medical treatment, which may be refused just as chemotherapy may be refused eg. (In addition to the courts, most recognized medical organizations, committees, and respected "think tanks" which have addressed the issue have endorsed the above statements.)

If you, the physician, for personal or other reasons, are unwilling to withhold or withdraw life-sustaining treament from a patient who has stated unequivocally that he does not want the treatment, then you are obligated to refer the patient to another physician who will comply with the patient's wishes. Treatment of a competent patient against his or her wishes will often constitute an assault and/or battery, and may subject the physician to civil or even criminal liability. The patient will also probably not be obligated to pay for unwanted medical treatment.

If your patient is incompetent, it is imperative to find out whether or not the patient ever executed a Living Will or other written document indicating whether he would want life-sustaining treatment maintained in the event of serious disability. If there is a Living Will, it should be carefully scrutinized, since such are not always uniform. Some Living Wills apply only to people in a terminal condition. Some Living Wills request that food and water be continued. In other words, do not assume it is permissible to withhold or withdraw life-sustaining treatment just because the family says "Uncle Harry had a Living Will."

Although a Living Will or other document is not currently required in order to withdraw life-sustaining medical treatment, one should, of course, proceed with more caution if relying on verbal statements alone, especially those reflecting the feelings of family members, as against what the patient has said directly. The family's wishes do not count if they are in conflict with the patient's expressed wishes; it is what the *patient* wants (or wanted before becoming incompetent) that matters. Any withdrawal based only on family wishes can be a very touchy area which may require consultation with counsel, an ethics committee, or some other informed source.

There is no reason for physicians to insist automatically that the family go to court in order to withhold or withdraw treatment. That poses an enormous financial and emotional strain on the family, and can cause inordinate delay. Most observers and participants in this subject area agree that the court should be the last resort, not the first refuge. Litigation should be reserved for situations where there is a real doubt or conflict about what the patient's desires were. The decision should, in most instances, remain where it belongs — a decision between the patient, his family and his physician.

Much confusion and doubt will be avoided if you, the physician, will and can talk to your patient about withholding or withdrawing life-sustaining treatment before he or she suffers a debilitating accident or condition. Most surveys show that only 15 to 20% of people have a Living Will or other reliable documentary evidence indicating a preference concerning withdrawal of life-sustaining treatment in the event of profound disability. Most observers agree that this is more a result of ordinary procrastination rather than an unwillingness to make a decision on the subject. The polls have also shown, consistently, that between 70-85% of persons queried do not want to be maintained on life-support treatment if they become severely disabled with no reasonable chance of recovery.

As a practical matter, this means physicians have an important opportunity to discuss the issue with their patients, especially those who will likely be seriously disabled in the foreseeable future. If the patient has formed an opinion on the subject, whatever his wishes may be are far more likely to be honored if they are reduced to writing or reported to a reliable and objective reporter, such as the physician, and are recorded in the medical chart.

If you are to offer a Living Will form to your patients, make sure you review it in order that you can explain its provisions to the patients. CAUTION: many pre-printed forms track the language of the current Hawaii statute, which a) purports to require that the patient be "terminal" before life-sustaining treatment can be withdrawn, and is b) vague in the specific issue of withdrawing food and water. Patients have signed such Living Wills simply because they believed it was the only allowable way of expressing their wishes (which is not true under the very language of the statute).

In brief, given the recent court decisions, and given some of the peculiar provisions in the current Hawaii statute, the pre-printed form you may already be offering may be unduly restrictive, or, even worse, may not accurately express your patient's wishes in that it contains the "terminal" provision or some other limiting factor. The key concept is simply to get an accurate record of what the patient wants or does not want. If there is some issue later about whether the law will permit everything the person requested, so be it; but there is no harm or liability in obtaining an accurate recordation of what the patient wants or does not want.

Finally, many observers believe that Hawaii's Living Will law will be improved in the next legislative session; therefore, be alert to future bulletins or information on this issue.

The following is a model Living Will form drafted by Jeff Crabtree. It draws from sample Living Wills and court decisions in Hawaii and around the country. It has been made available for anyone to use. Physicians or patients are free to reproduce it on their own stationary, or on blank stationary, or in any other form of one's choice. It is accompanied by optional sample instructions which may help the patient to fill out the form.

# Living Will Declaration

1. I, _____, make this Declaration on _____, 19_____. I am of sound mind. I willfully and voluntarily make this Declaration as the instructions to be followed if I become unable to participate in decisions about my care. I fully understand and intend that the instructions in this Declaration may result in my death under certain circumstances.

2. These instructions express my deeply-held belief that I have a right to refuse treatment. I expect my family, doctors, and everyone concerned with my care to regard themselves as legally and morally bound to act in accordance with this Declaration, and in so doing to be free of any civil or criminal liability.

3. If any part of this Declaration is declared legally void, then I ask that the rest of this Declaration be honored.

4. The quality of life is important to me. I do not want to be kept alive if I have an incurable or irreversible mental or physical condition which seriously or totally disables me with no reasonable expectation of recovery. This includes brain disease or brain damage such that I am unable to recognize people and to speak understandably or to communicate feelings other than pain or suffering or delusions. My condition does not have to be terminal in order for these instructions to apply. These instructions apply even if I could be kept alive indefinitely by medical treatment.

5. If I have any condition described in paragraph 4, above, I direct that all procedures which might prolong my life be withheld or withdrawn, and that I be permitted to die with only the performance of any medical procedure necessary to provide me with comfort or to alleviate unnecessary pain. Specifically, but without limiting myself, I do not want surgery, medication (except pain relief), cardiopulmonary resuscitation, antibiotics, kidney dialysis, blood transfusions, radiation or chemotherapy, or a mechanical respirator. Also, I specifically do not want artificial feeding or water if such treatment will only prolong my condition.

6. If for any reason my instructions as stated in this Declaration are not specific enough, or if for any other reasn my instructions do not resolve or answer the issues raised by my incapacity, then I designate the following person to act in my behalf and make whatever decision about my care that I would be able to make if I were able, including the power to make decisions that will result in my death:

Name: _____

Address: _____

_____

7. If the person I named above in paragraph 6 is unable or unwilling to make decisions on my behalf, I then authorize the following person to do so:

Name: _____

Address: _____

_____

8. If any physician or health care facility refuses to comply with this Declaration, then I want my care transferred to another physician or facility who will comply with these instructions. I also authorize a court-appointed guardian, or the substitute decision-maker named in paragraph(s) 6 and 7, above, in his or her discretion, to file suit to force compliance with this Declaration, and for damages if warranted, and otherwise to force compliance with this Declaration.

_____ _____

Signature of Person Making This Living Will Date

Name: _____

Address: _____

_____



*(Continued)* ▶

| Witness Signature | Name of Witness (Print or Type) | Date |
|---|---|---|
| Witness Signature | Name of Witness (Print or Type) | Date |

Statement of the Two Adult Witnesses Who Signed Above:

_____ (the person signing this Living Will) is personally known to me and is, I believe, of sound mind and is making this Declaration freely without threat or duress.

I am at least 21 years of age. I am not related to the person signing this living will by blood, marriage, or adoption. I am not the attending physician, an employee of the attending physician, or an employee of the medical care facility in which the person signing this Living Will is a patient.

| (Type or Print Name of First Witness) | (Type or Print Name of Second Witness) |
|---|---|
| Name: _____ | Name: _____ |
| Address: _____ | Address: _____ |
| _____ | _____ |

NOTARY
STATE OF HAWAII )
)SS
CITY AND/OR COUNTY OF_____ )

The _____ preceding pages of this Living Will Declaration were subscribed, sworn to, and acknowledged before me by the Declarant, _____, and subscribed and sworn to before me by the above-listed witnesses, on _____, 19___.

_____
Notary Public, State of Hawaii

My commission expires:_____

INSTRUCTIONS TO ACCOMPANY A LIVING WILL FORM

Enclosed is a copy of a Living Will form. It is designed to express YOUR wishes about medical care in case you ever become so disabled that you cannot express yourself. You can sign the form as is (if it accurately exprcsses your wishes). You are also free to change it in any way you want that more clearly or thoroughly states what sort of treatment you want or do not want in the event of a serious incapacity. If you want to make changes to the form, you should have your Living Will re-typed into final form. If this is impossible, thcn initial and date all changes.

How do you sign the document? At a minimum, you should sign and date the bottom of each page. This is much better than merely making verbal statements to relatives or friends. The more formal, the better. Therefore, I (strongly) recommend you also have two (2) witnesses sign at thc end. Even more formal, and therefore evcn better, I also (strongly) recommend that you have the two (2) witnesses' signatures notarized, after they all watch you sign and initial where you are supposed to.

Signing this Living Will (and making sure it is kept in a place where it will be found if you become incapacitated) will help for your wishes to be honored. It is also a good idea to speak with your family and doctor about these issues, and give a copy of your Living Will to your doctor, members of your family, your minister, your lawyer, etc., and for your wishcs to become a part of your official medical record.

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# LEAD POISONING: Cause for Alarm

Denis J. Fu MD*

*Lead (Pb) is everywhere in our environment and all children are exposed to lead to some degree. The Center for Disease Control (CDC) has recently declared that a blood lead level of 25 ug/dL and an erythrocyte protophoryrin of 35 ug/dL or above indicate an excessive absorption of lead in children and constitutes grounds for intervention[10]. A study reported that about 780,000 (4%) of American children age 6 months to 5 years had blood lead levels of 30 ug/dL or higher[4]. If the current level of 25 ug/dL had been used as a criterion in this study, the number of children involved would be much higher. It has been clearly stated by the American Academy of Pediatrics that ideally, all pre-school children should be screened for lead absorption by means of the erythrocyte protophoryrin test.*

*The following is a review of lead poisoning in children and the serious consequences which may follow if it is not recognized early.*

## Objectives

Lead remains a significant hazard in the health of American children[1-3]. Four percent of American children 6 months to 5 years of age were reported to have an elevated blood lead level of 30 ug/dL or higher, according to the data collected in the Second National Health & Nutrition Examination Survey (NHANES)[4]. That study was completed in 1980 and represented a significant number of children (780,000 by estimate), who would at this time be in their pre-teen or teenage years.

Because of the wide variation in presenting symptoms, ranging from a mild learning disorder[5], to anemia, to frank encephalopathy and irreversible brain damage, it is imperative that the clinician consider lead poisoning in the differential diagnosis whenever a pediatric patient presents with a puzzling clinical problem. After proper diagnosis, followed by chelation therapy, mortality is reduced substantially; however, 50% or more of the survivors of encephalopathy who have been treated after the onset of symptoms, develop severe and permanent brain damage.

## Exposure

Children may have multiple non-dietary sources of exposure to lead. Food, water and air contain small amounts of lead. The amount of Pb invested daily in food and beverages is <100 ug; in drinking water there is <50 ug Pb/Liter and in air, <1 ug Pb/M$^3$. In adults an increase in airborne respirable lead of 1 ug/Pb/M$^3$ increases lead in blood by 1 ug/dL.

The powdering of older paints and the lead in automotive exhausts are major contributors to the lead contents of surface soil and dust. Whereas average daily diets may contain <100 ug/ of Pb, house dust in old housing may average anywhere from 750 to 11,000 ug/Pb/gm, and multi-layered chips of old lead pigment paints may contain 20,000 to 100,000 ug/Pb/CM$^2$. Lead base paints are still around despite the fact that high-lead content paints (30-40%) were banned as long as 13 years ago (in 1977). Current levels in paints should not exceed 0.06% Pb. It is estimated that over 40 million homes in the U.S. still contain these high-level, lead-content paints[6]. (The average age of Hawaiian homes is not known.)

## Metabolism

Absorption of lead from the gastrointestinal tract is affected by age, diet and nutritional deficiencies. Although adults absorb 5-10% and retain a little of it, young children absorb 40-50% and retain 20-25%. The total body lead burden is divided into 2 major compartments: Bone, in which the amount increases with age and has a residence time of 27 years; and in soft tissues, in which the residence time is about 40 days. The toxicity of lead is related to its concentration in the small, mobile, soft tissue pool.

## Clinical manifestations

The earliest symptoms in the child are hyperirritability, anorexia and decreased play activity. Sporadic vomiting, intermittent abdominal pain, and constipation are manifestations of lead colic. These symptoms usually appear 4-6 weeks prior to the state of acute encephalopathy, which is heralded by the sudden onset of persistent vomiting, ataxia, impairment of consciousness, coma and seizures.

## Treatment

The principal goal of preventive therapy is the prompt separation of the child from the source of lead, followed by the timely reduction of lead hazards in its environment. Chelation therapy is directed to the child whose blood lead level is 50 ug/dL whole blood (wb), but <100 ug/dL wb. Intramuscular therapy with CaEDTA should be limited to 3-5 days at a daily

*(Continued)* ▶

*Pediatrician
Maui Medical Group
Wailuku, Maui

dose of 1000 mg/M² in 2 divided doses.

When acute encephalopathy is present and when Pb level reaches 90-100 ug/dL wb, a regimen of BAL and CaEDTA is recommended. The dose of BAL is 500 mg/M²/24hr and that for CaEDTA is 1500 mg/M²/24hr. These drugs are injected simultaneously at separate intramuscular sites in 6 divided doses each day for 5 days, after a priming dose of BAL only. In moderately ill children who show immediate clinical improvement after initiation of treatment, BAL may be stopped after 3 days, and the total CaEDTA should be reduced after 72 hours.

**Summary**

Lead remains a significant hazard for American children[1-4]. Lead is ubiquitous. Virtually all children in the United States are exposed to lead that has been dispersed into the air, dust and soil the result of combustion of leaded gasoline.

Lead is a natural constituent of the Earth's crust and may be found in drinking water, soil and vegetation. It also exists in houses painted before 1977. It has been estimated that a lead paint chip weighing only 1 gram (approximately 1 cm² in surface area) and containing 5% of lead by weight will deliver a potential dose of 50 mgm (50,000 ug); by comparison, the safe upper limits for daily intake of lead by children is 5 ug/Kg of body weight.

An Expert Advisory Committee for the CDC has determined that a blood lead level of 25 ug/dL or above indicates excessive lead absorption in children and constitutes grounds for intervention[10]. Increased lead absorption was previously defined as a blood lead level of ≥ 30 ug/dL.

The recommendations of the Joint Committee of the American Academy of Pediatrics rest on three premises[10]:

1) That exposure to lead is widespread;

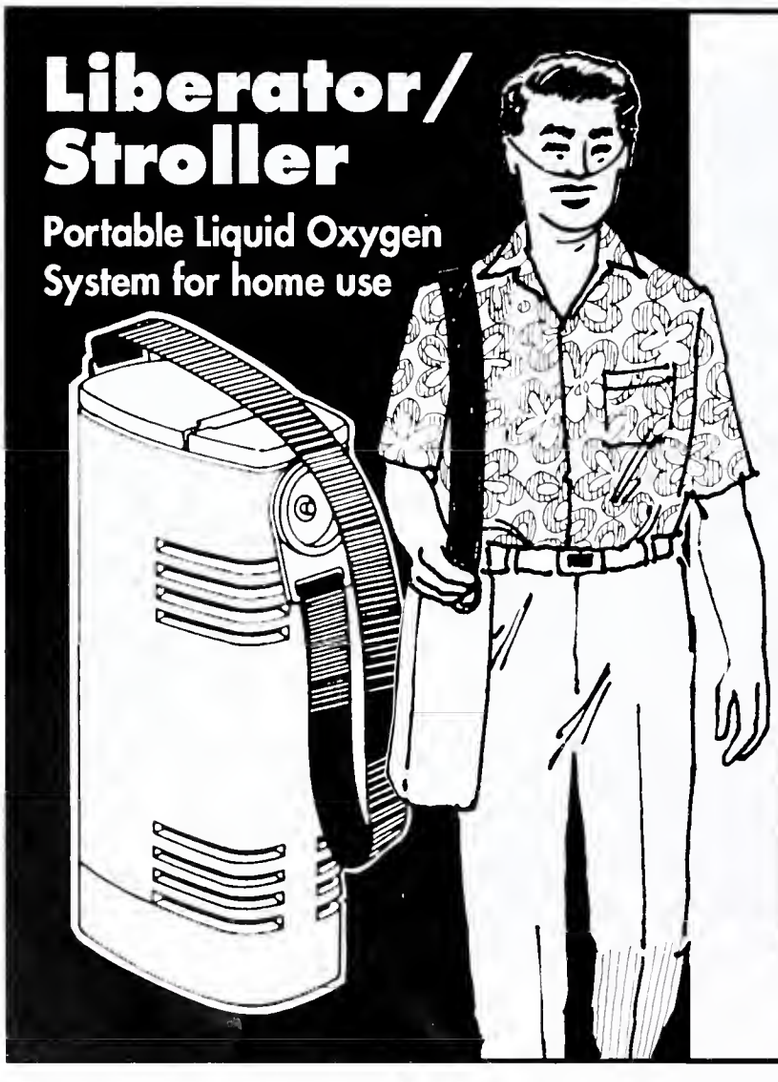
2) that lead causes neuro-psychologic and other serious impairments in children at relatively low levels of exposure; and

3) that the neuropsychological effects of lead, even in asymptomatic children, are largely reversible if recognized and treatment initiated early. ■

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# Dermatology, 50 years ago

Harry L. Arnold Jr MD*

In 1935, just before the age of 23, I became a junior intern at the University of Michigan Hospital in Ann Arbor. My 3-year appointment (and that of Dr David G. Welton, my opposite number) was with Professor Udo J. Wile, head of the Department of Dermatology, with whom I was to spend the last 2 months of the rotating internship.

In our undergraduate course in pharmacology, we had learned virtually nothing that was of practical use in patient care. I recall seeking (and getting!) advice from head nurses on the wards regarding drug selections and dosages for sedatives, analgesics and narcotics!

On the dermatology service we spent the first year in the outpatient clinic, where, like preceptees, we would examine each patient, guess at the diagnosis, take a history to improve or confirm it, then call Dr Wile, who would come in and make his own instant diagnosis, which was almost invariably correct. I recall only one instance of an error: He identified a granulomatous iododerma of the forehead as a basal cell carcinoma. When I told him the lesion had developed in the hospital over a period of 2 weeks, during which time the patient had been receiving potassium iodide by mouth, he was still skeptical, but reconsidered. A biopsy confirmed the diagnosis of an inflammatory lesion. We were under explicit orders never to interfere with his judgment by communicating our own diagnosis or the patient's history.

As we were leaving the room, we would give him the history, the differential diagnosis, and the proposed treatment, which he would either modify or approve.

After watching him perform vigorous curettage, cauterize bleeding points, and apply acid nitrate of mercury (the Sherwell procedure) on both basal and squamous cell carcinomas, we were allowed to do it ourselves, and since we saw few recurrences, I suppose we became expert enough at the procedures. Simple excisions and punch biopsies we learned to do by observation.

The dermatology department had its own microtome, an ancient sliding one, and we fixed, embedded, sectioned, and stained our own tissue specimens (half of each biopsy specimen). Having spent the summer of 1930 at home in Honolulu (Hawaii) in the laboratory of the Straub Clinic learning how to perform these procedures, I was well prepared. The routine of dividing the tissue specimens infuriated the professor of pathology, Carl V. Weller, because it flouted the complete control he assumed over all excised tissues, but Dr Wile's clout was sufficient to guarantee the practice continuing, so we went on dividing every biopsy specimen into two equal parts – one for pathology, and one for ourselves.

Mycology was practiced as an optional collateral discipline, with no formal and very little informal instruction: whatever we learned was from examining our cultures and the illustrations in textbooks. Our attitude toward the subject was considerably influenced by Franz Blumenthal, an eminent German dermatologist who spent several years in the Department without academic status. "The classification of fungi," he once told us solemnly, "is very much like the classification of roses." And "if you want a fungus identified" (with a twinkle in his eye), "send a culture to *one* mycologist!" Not an environment calculated to produce a dedicated mycologist – and it didn't. I soon learned that clinical considerations were more often than not the overriding ones, and we rarely sent a culture to "one mycologist."

We had little or no instruction in histopathology – it was not Dr Wile's forte – and although neoplasms were at least identified as such, and classified as benign or malignant, we learned little about identifying inflammatory diseases. Hermann Pinkus had just begun holding weekly seminars in dermatopathology at Eloise Hospital in nearby Detroit (Mich), and Welton and I attended them regularly.

The Department had its own x-ray therapy machine, which we calibrated ourselves and used with prudence in such disorders as acne, hidradenitis, furuncles, lichen simplex chronicus, localized plaques of lymphoblastoma, cellulitis, and other disorders in which we would use intralesional or systemic corticosteroids today. It was invaluable, but just when x-ray therapy was being phased out all over the country – for the not very valid reason that it might have unwanted side effects, even if not enough was given to cause roetgen dermatitis – corticosteroids rendered it largely passé, except for some malignancies.

Half of our second-year residency was spent in the university's student health service, which gave us some valuable

*(Continued)* ▶

* Clinical Professor of Dermatology, University of California, San Francisco and Founding Editor of Hawaii Medical Journal

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hands-on experience practicing independently. It also gave us some interesting experience with pityriasis rosea and warts. The other half of our second year was spent in charge of the 30-bed dermatology inpatient service. Extensive psoriasis, severe atopic dermatitis or seborrheic dermatitis, permphigus (including bullous pemphigoid, not yet recognized as a separate disease), lymphomas of all sorts, and central nervous system syphilis were the chief reasons for hospitalization. The resident in charge was assisted by four experienced nurses and a veteran orderly, "Joe," whose like must have existed in a score of teaching hospitals, to help him. Joe was a wonder!

Topical medications were the principal therapy for inpatients as well as outpatients. Soaks, baths, and wet dressings predominated, and boric acid solution, solution of aluminum acetate (Burow's solution), Alibour water (zinc and copper sulfates), and Vleminckx's solution were used, in diminishing order of frequency. Potassium permanganate soaks were used to cleanse up odoriferous pyoderma (remember, we had no antibiotics), and we ordered them in a strength of 1:20,000. Joe would casually throw handfuls of the crystals into 3 inches of tepid water in a basin and grind them into solution using the bottom of a milk bottle. The patient would then immerse hands or feet in this inky liquid, which we once estimated, was close to a 1% solution. Never did it produce the least suggestion of irritation, and how it cleaned things up!

Topical medications were stored in wide-mouthed enamel cans in the treatment room; boric acid solution was stored in 2-gallon bottles. Dressings wet with boric acid solution, or Burow's solution, were paramount, and Joe was an expert at applying them to any desired body part: hands, feet, or head. Head bandages, with only eyes, nostrils, and mouth exposed, looked as if they had been fashioned from plaster of Paris. Hand bandages, with the thumb separate so the patient could hold a tongue blade with a hole whittled near the end to hold a cigarette, formed neat mittens.

When wet dressings, soaks, or baths had done their work, patients might graduate to a variety of applications 1% or 3% "sal-vas" (salicylic acid in petroleum jelly); Lassar's (zinc) paste; 5% crude coal tar ointment; ammoniated mercury, 5% or 10%; or 5% ichthammol in zinc paste. For scabies there was 10% each of balsam of Peru and sulfur in petroleum jelly (Dr Wile scorned any other base). For tinea, there were 5% precipitated sulfur and 3% salicyclic acid, and Whitfield's ointment. Castellani's paint, although we applied it to outpatients, was not used in the wards, probably because it would have stained the bed linen.

One stock ointment that long anticipated the knowledge that resident staphylococci were an important adjuvant factor in psoriatic plaques was 2% salicylic aid in 5% ammoniated mercury ointment, which was a routine preliminary application for plaque psoriasis. It did not give way to crude coal tar paste until all scaling had stopped.

Syphilis was an ever-present problem, although early clinical syphilis was already becoming less prevalent in the 1930s, and we often had to ask friends in Detroit to send us patients with primary or secondary syphilis for teaching purposes. Congenital syphilis and tertiary syphilis of all kinds were common enough, since we were a primary referral center. We did our own dark-field examinations, and I suppose we became adept at these, although I have since become suspicious of the presumption of their accuracy, except in the hands of technicians examining half a dozen smears daily. I view with equanimity the disappearance of dark-field equipment from most modern dermatology departments.

Treating syphilis in those days was no easy matter. A surgical room on the fifth floor was reserved for weekly sessions at which old arsphenamine – "606," or salvarsan – which had so narrowly escaped being marketed as "Arsol," as Carl Herzog of Duke Chemical Company was later to tell us – was given by intravenous gravity flow once a week. The resident who prepared it was dressed in sterile gown and gloves and worked at a sterile-draped table covered with sterile glassware. He had to sprinkle the yellow powder into a wet, stoppered graduate, so that it coated the inside, add hot triple-distilled water, then carefully titrate the solution to neutrality and bring it up to volume. Then, taking a carefully honed 18-gauge "Schreiber" needle, with a penny soldered to its shank, holding it parallel to the bevel as a guide, he had to insert it into a vein and administer the dose by gravity flow. The same needle might serve five or more patients. I suppose most viruses would have succumbed to this concentration of the organic arsenical, but from the vantage point of today, it seems an appallingly dangerous procedure. At the time, it was never questioned.

Some patients needed only the far more easily prepared, flash-soluble "954," neoarsphenamine or neosalvarsan, and received their intravenous dose from a 10-mL glass Luer syringe. But both drugs were part of a routine, inescapable, 3-year course of chemotherapy, with months-long courses of weekly intramuscular injections of bismuth subsalicylate in oil. We knew bismuth was a feeble antispirochetal drug, but we did not suspect that it was working against the vasculitis, as subsequent experience with its potency against nodular vasculitis and lupus erythematosus would tell us. But we fully appreciated its effectiveness in syphilis, and the complete absence of any toxicity or side effects as long as it was never injected intra-arterially.

Neurosyphilis was not helped by this routine. Selected mild cases were managed after a fashion by intravenous injections of tryparsamide or by intraspinal injections of neoarsphenamine. The main line of defense for tabes and paresis, however, was therapeutic malaria. It was the resident's responsibility to space its use carefully, so that before one patient's 4-week course of fever had ended (by intravenous neoarsphenamine, or by quinine), the strain of malaria was preserved by passing his infected blood to another patient, in a series of three 10-mL injections in as many days. It would take 4 to 8 days for chilling to begin, and if it went much longer we would give a little epinephrine intravenously to make the spleen contract and set some *Plasmodia* at large. I once induced atrial fibrillation in this way – but it stopped spontaneously after 10 days.

When I began private practice, in Honolulu, in 1939, Prontosil (azosulfamide) had just been introduced, but it was not very effective against anything except *Streptococcus*. In my first year in practice I lost a 42-year-old Chinese schoolteacher with a pustule on her cheek, which gave rise to fatal cavernous sinus thrombosis. We soon got sulfapyridine and sulfathiazole, the latter for topical as well as oral use. As a powder it proved very useful, but the cream caused so much sensitization that it was quickly abandoned.

Syphilotherapy had been compressed, using Mapharsen (oxophenarsine hydrochloride), from 3 years to 60 days – and

about one quarter of my practice was in syphilology. I was doing three to six spinal taps per week, two thirds of them on prostitutes, of whom Honolulu had about 350. In 1942 the army's prophylactic stations in downtown Honolulu were administering 40,000 venereal prophylaxes per month. When the brothels were abolished in 1944, some of us expected venereal disease incidence – already down to the astonishingly low level of two or three cases per 100,000 men per year – to rise sharply as the "working girls" went underground. Despite our pessimism, the rate fell even lower, eventually to 0.5 cases per 100,000 annually. Beginning in 1946 syphilis became progressively less common.

Urticaria remained an unsolved problem. Histaminase, available from around 1937, had been a total disappointment. Adrenalin had recently become available in an oil suspension and was effective, but it required a house call or an office visit to administer. Then in 1946 we got diphenhydramine hydrochloride (Benadryl), and a new day dawned. True, it was almost as good for insomnia as for urticaria, but it was pretty effective, and I no longer had to make night calls on my urticaria patients.

The arrival of penicillin far overshadowed that of Benadryl in its importance: syphilis could be treated in a week or less, and many bacterial infections became amenable to treatment for the first time.

But the most important advance was to come in about 1950: adrenal corticosteroids! First came cortisone itself, in a 100-mg tablet costing a few dollars per day. It was a godsend for desperate patients. I vividly recall one 45-year-old woman with severe, universal, lifelong atopic dermatitis who could not recall a night of uninterrupted sleep, but slept 8 hours after her first two doses. I followed her up long enough to see her hair become – mysteriously – naturally curly. Hydrocortisone soon supplanted cortisone, but it too had all the unwanted effects of naturally secreted adrenocortical hormone – hyperglycemia, sodium retention, potassium loss, staphylococcal sepsis, and activation of latent tuberculosis. Yet to come were prednisone, triamcinolone acetonide, and parenteral administration of the latter, which would abolish nearly all unwanted side effects.

The 1930s were a challenging and rewarding time to enter dermatology practice: to start "baresark" and be handed one important and effective drug after another – against allergies, against bacterial infections, against syphilis, against inflammation – was exhilarating. But I wouldn't want to repeat it; that would be worse than reliving adolescence. ■





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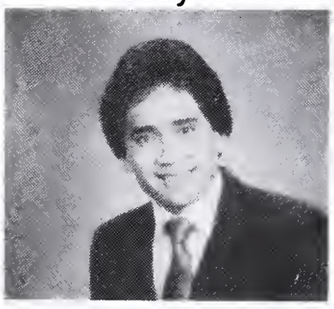
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## Maka O Ka Kauka

Russell T. Stodd MD

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While the Administration's federal budget must undergo major negotiations before approval and action, still some heavy weather is ahead for Medicare recipients. The budget compromise calls for the largest increases in payments by Medicare beneficiaries since the program began 25 years ago, and is already triggering opposition from senior citizens groups. Negotiators agreed to raise $60 billion by cutting reimbursement to hospitals and doctors by $30 billion, and raise an additional $30 billion from beneficiaries by an increase in copayments and monthly premiums. Officials of the AARP, the largest senior citizens group, were not immediately critical, but withheld judgment until the entire package was reviewed. Martha McSteen, president of the National Committee to Preserve Social Security and Medicare, called the proposals unfair.

**We are born princes, but the civilizing process makes us frogs.**

Additions to the alphabet soup simmering on the HCFA fire occur almost weekly. Having barely absorbed PPRC, GPCI and CLIA, now we are confronted with UPINs. As of November 1, the UPIN — *unique physician identification number* — must be listed on your Part B claim whenever applicable. Any provider (aka Doctor) who has a patient referred, or test ordered, must file the referring or ordering doctor's UPIN on the Part B claim. This includes any doctor who accepts a patient referred by another physician. So, if a patient is referred for visual fields, or for consultation, or for medical or surgical care, or for ?, then the UPIN must be included on the claim. Initially, no penalties will ensue if the UPIN is omitted, but the payment may be delayed. Later, HCFA anticipates that claims may be denied if the UPIN is absent. No doubt, DHHS must grant awards to the ribbon clerks and button counters who come up with the most creative, abstruse, imbecilic, fatuous ideas, in order to befuddle and delay medical care.

**Nothing is perfect. There are lumps in it.**

The perfect intraocular lens implant has yet to be devised. The multifocal IOL which holds so much promise, apparently accentuates some of the standard problems such as decentration, and incorrect power. Not only is the patient ametropic, but also may experience an annoying double vision. A few patients have had the lens removed, while others are simply deemed "unhappy," but have not had further surgery. Some investigators have discontinued using the lens.

**Once the toothpaste is out of the tube, it's hard to get it back in.**

A startling fact in Broward County, Florida (Fort Lauderdale), 40% of surgeons now go without malpractice insurance because they simply cannot afford the premiums. Thirty percent of the remainder carry only $250,000 worth of coverage, which can cost more than $85,000 a year. Lucky you live Hawaii where MIEC and HAPI have managed to keep medical liability under control. (Oh oh, now I've done it.)

**You never really lose until you quit trying.**

And in the halls of Congress, Senator Orrin Hatch, R-Utah, has introduced a bill much like the MICRA law in California which caps non-economic damages, schedules installment awards, scales down contingency fees and encourages alternate dispute resolution. It would seem that even the trial lawyers have been forced to admit that MICRA has controlled malpractice problems in the sunshine state. Of course, the introduction of a bill does not mean much, and even if it becomes law, the final bill will likely be far different than the original.

**Give a boy a hammer, and he will find that everything he encounters needs pounding.**

That ever so busy Office of Inspector General (OIG) now is scrutinizing YAG capsulotomies. The procedure has in-

creased almost exponentially with a three-fold increase from 1986 to 1987, and then doubling from 1987 to 1988. Now at 300,000 a year, the operation is second only to cataract at 1.4 million. Some surgeons have capsulotomy/cataract ratios at 75%, and some are actually pre-scheduling the procedure. Laser ophthalmic procedures are increasing at such a volume that the OIG Office of Investigators and Evaluations is looking at surgeon patterns.

**Nobody notices when things go right.**

Perhaps you were not aware that merit pay increase for reviewers for Medicare has been based upon number of sanctions and amount of monetary penalties imposed. In other words, a *bounty system.* A federal judge overturned the policy and removed sanctions against a California physician, stating that such a system would violate providers' rights to due process. The AMA has long complained that DHHS has consistently rewarded reviewers for imposing sanctions, but penalized or discontinued using reviewers whose penalty numbers fall below the "norm."

**Almost anything is easier to get into than out of.**

The University of California at San Francisco conducted a nationwide survey and found that 63% of internal medicine residents do not plan to care for HIV patients when starting their own practice. After analyzing their data, the investigators found that the decision not to treat was influenced more by a prejudice against homosexuals and i.v. drug users, rather than a fear of contracting AIDS. In a related event, New York orthopedic surgeon Daniel Elstein faces a complaint from the state Division of Human Rights because he refused to care for an HIV patient and referred him to an AIDS clinic. The complaint alleges that he discriminated against a person with a disability in a place of "public accommodation."

**Incompetence knows no barriers of time or place.**

Despite the abiding and repetitive examples of government program failures at both local and national levels, the prevailing dream is that somehow government is the solution, when in truth, *government is the problem.* On Maui, even the Director

*(Continued)* ▶

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of the state Department of Health admits that the state simply cannot run a hospital. Without belaboring detail, one can see that separating income from outgo, writing contracts from afar, and managing personnel with a clumsy, careless, unresponsive civil service, results in gross management incompetence. Now at the federal level, the Defense Department's medical school, funded at $77 million a year, is fraught with management problems. Congress is investigating.

**Anything is possible if you don't know what you're talking about.**

Meanwhile back in the HCFA kitchen, the latest recipe calls for treatment guidelines for seven medical conditions: bedsores, BPH, cataracts, chronic pain, sickle cell disease, urinary incontinence, and depression in outpatients. Supposedly, physician compliance will be voluntary, however it is expected that PROs will use the guidelines for quality of care decisions.

**To love oneself is the pathway to a lifelong romance.**

Oh hooray! The image of medicine is about to be improved. How, you ask? Warren Beatty is going to star in a movie called, *"The Doctor."* Thumbnail scenario: the successful doctor and family man is hospitalized, becomes a patient, and reassesses his own bedside manner. I'm breathless with anticipation.

**Nothing is so good as it seems beforehand.**

On the investment calendar — Merck & Co. Inc. and E.I. DuPont De Nemours & Co. have agreed to a joint venture creating an independent research-driven, worldwide pharmaceutical firm. The new company will begin operations January 1, 1991, as Dupont-Merck Pharmaceuticals Co.

**Addenda—**

—Each year more than 5,400 Americans lose their sight to glaucoma.

—Disposable extended wear contacts can cause the cornea to swell 10% to 15% overnight.

—A censor is a man who knows more than he thinks you ought to.

Aloha, and keep the faith,
rts



## Over the Editor's Desk

S. Kalani Brady

**DOCTORS: YOUR FUNNY STORIES ARE NEEDED FOR THE BOOK "KEEPING YOUR DOCTOR IN STITCHES"** — This book is designed to show the funny side of Medicine.

It will deal with those situations you have all experienced in which the words or actions of patients and colleagues have left you limp with laughter. These stories have taken place in the hospital, in your office or any other place where the healing arts are practiced. The book will cover all medical specialties.

Patients will be kept anonymous and doctors and nurses may also remain nameless, if they so desire.

Reaction to this book, so far, has been very positive. Your stories could be included.

If you wish to submit stories, please include your name, address, medical specialty and hospital affiliation.

For more information on this project, read the April 20th issue of the American Medical News, page 27.

If you wish to join me in this endeavor, please send your articles to: Don Herbert, 12327 Erwin Street, North Hollywood, Calif. 91606. Or telephone (808) 980-0458.

**CANCER STUDY RAISES MORE QUESTIONS THAN IT ANSWERS** — A study released today by the National Cancer Institute (NCI) does not eliminate concern about the health risks of nuclear weapons facilities, according to a national physicians group. "The study raise more questions than it answers about nuclear weapons production and cancer," said David Lewis, Director of Public Affairs for Physicians for Social Responsibility (PSR).

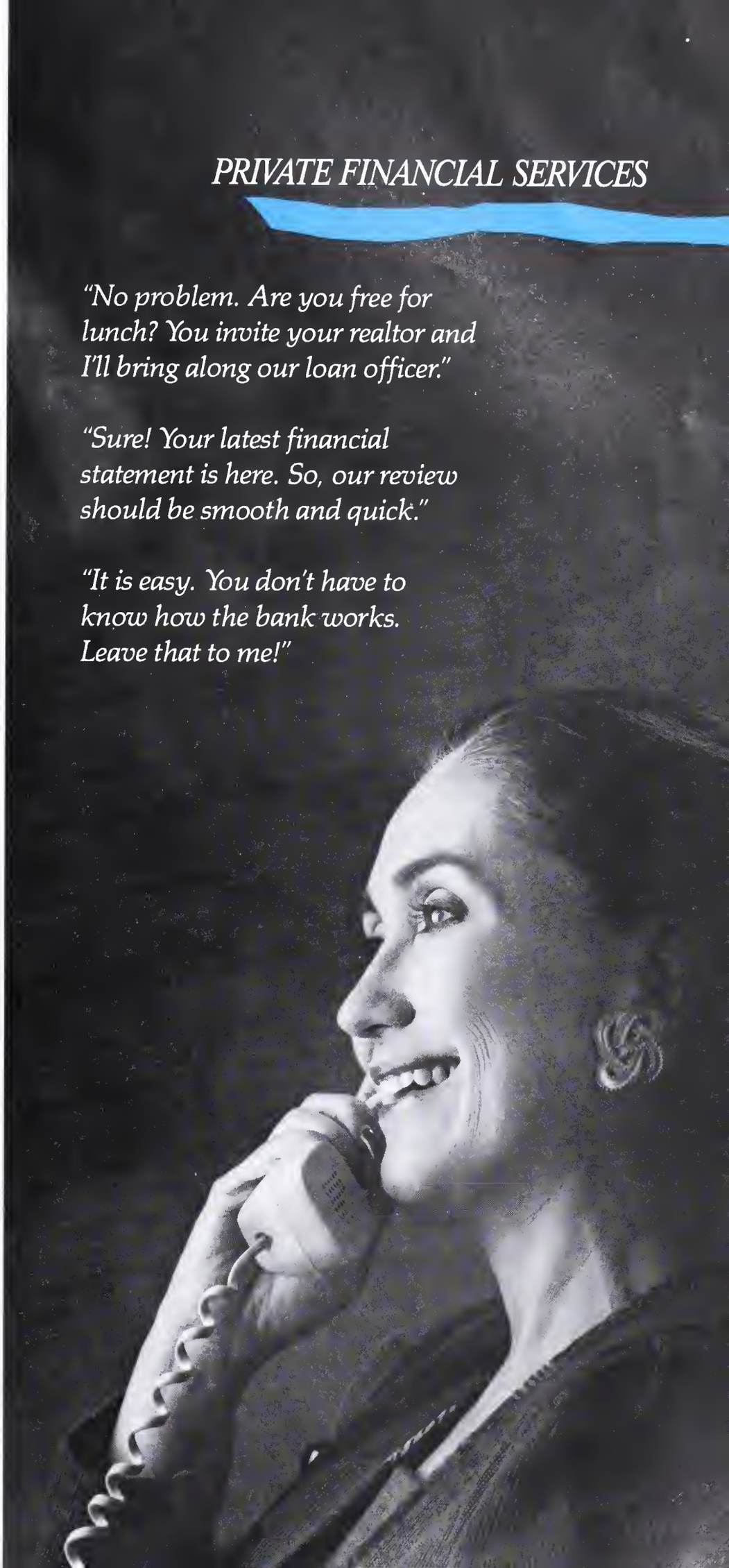
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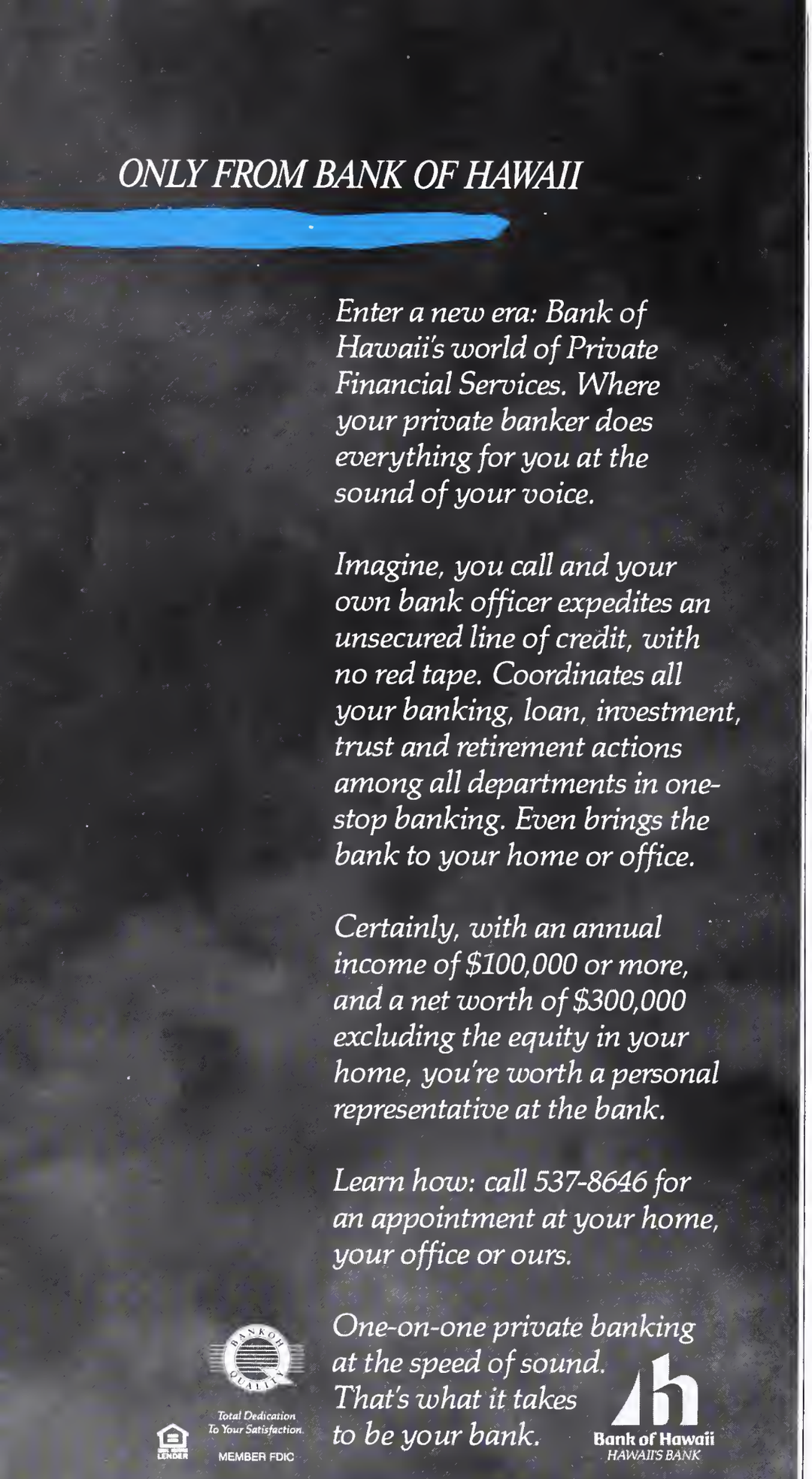
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**OTED** *(Continued)*

"The NCI study shows higher relative risk for some cancers around nuclear weapons facilities operated by the Department of Energy (DOE). This is not a clean bill of health at all — these findings merit much more in-depth study," said Lewis.

"This is a mortality study, which only measures cancer deaths, not incidence of cancer and other illnesses," Lewis said, "the NCI itself noted that cancer incidence data should be studied for a more sensitive assessment of possible increases around nuclear facilities."

"Many cancers take years to develop and the U.S. population is very mobile — these and other factors could account for the NCI's overall finding of no excess cancer mortality risk in counties with nuclear facilities, as the survey's authors admitted," Lewis said.

Lewis noted several of the study's results for the nine DOE facilities surveyed that showed higher relative risk in the years after start-up:

- Significantly larger relative risk among children below age ten for cancer of the trachea, bronchus and lung, which is extremely rare in children;
- Higher relative risk of bone and joint cancer among ten to 19-year-olds;
- Higher relative risk of primary liver cancer, female breast cancer and bone and joint cancer among 20- to 39-year-olds.

"As the NCI acknowledged, the research agenda should emphasize careful, case-control studies of cancer incidence, including a replication of the recent study by Gardner examining risk of leukemia in children living near the Sellafield nuclear reprocessing plant in Britain," Lewis concluded.

PSR has called for the complete and immediate release of DOE records on the health of workers at nuclear facilities, and for independent oversight of health and safety at those facilities.

Physicians for Social Responsibility is a national membership organization of 30,000 health professionals, which is monitoring the health risks of nuclear weapons production.

**SURVIVAL RATE JUMPS TO 89% FOR SOME WOMEN WITH CERVICAL CANCER** — Women with early yet bulky cervical cancer whose pelvic and para-aortic lymph nodes are treated with radiation have a much greater chance

for cure than those treated only to the pelvis, a new study has found.

Dr. Marvin Rotman of the State University of New York in Brooklyn said today that 335 women with bulky stage IB, IIA and IIB cancers took part in the Radiation Therapy Oncology Group (RTOG) clinic trials. Those who received the additional radiation to their abdominal para-aortic lymph nodes had a 66 percent cure rate at five years. That compares with 55 percent for those treated with radiation to the pelvis alone. This is a "significant difference," said Dr. James Cox, chairman of the RTOG, the largest radiation oncology research group in the world.

When the women with more advanced cancers were removed from the analysis Dr. Rotman said, the cure rate of the patients treated with radiation to their abdominal lymph nodes jumped to 89% at two years. That compares with 66 percent of those treated with limited radiation.

Women who undergo hysterectomy as treatment for this type of cancer have a similar survival rate as those who are treated with radiation only to the pelvis.

The women in the study had no apparent para-aortic lymph node involvement when they were treated, Dr. Rotman noted. But these cancers are very predictable, he said. They often use the para-aortic lymph nodes as "a pathway to spread." "What we are doing," Dr. Rotman said, "is irradicating disease in that pathway while it is still microscopic and thereby improving the patient's chance for cure."

Dr. Rotman added that currently many patients have cervical cancer recur following surgery or limited radiation because their cancer has moved to involve their para-aortic lymph nodes. These women only have a 17 to 25 percent chance for cure, he said. If we treat the pelvis and para-aortic nodes more of these patients will be cured.

The American Cancer Society reports that cervical cancer is the second most common cancer found in women age 15 to 34. More than 50,000 women are expected to develop the disease in 1990 — most of those being non-invasive cancers. Cervical cancer is more prevalent in the lower socioeconomic groups. The lifestyles of these groups — they seem to have intercourse at an earlier age and have more frequent sexual activity — play a major role in their higher incidence.


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# Advent

Muted morning light
Drifting in on
Blustery wings
Of wet and wintry
Morning trades —
To muted morning sounds
Obscured by
Hurried and noisy winds
Which mimic our own
Seasonal frenzy
But fail to blur
The exquisite beauty
Of this day

We
Like the wind
Rush to make ready
Completing our prechurchly chores
To begin our short journey

The wet morning
Highway glistens
And reflects the brilliance
Of a perfect rainbow
Which continues before us
Pointing succinctly
To our destination
Not unlike a star
Which led men of wisdom
So many years ago

A right turn
And two lefts
Release us from our
Hypnotic advance
On this arching omen of
Crimson and cadmium
Golds and greens
Azures and purple

Across the highway
We saw Christmas trees
And people hurrying
To the church
Where we met
On this day
Four years past
Where we said
Our sacred vows
Eleven short months ago

Now
At this beginning
Of Christmas
In the seventh year
Of the eighth decade
Of the nineteenth century
Anno Domine
A baby is to be born
And we shall call
His name "Blessed"
For this shall indeed be
A child of the Advent
A child of our Faith
And of the power of God
Which thrust us together
When time was ripe
When our hearts were prepared
And when Advent
Was upon us.

— Robert S. Flowers
November 29, 1987 (Advent Sunday)

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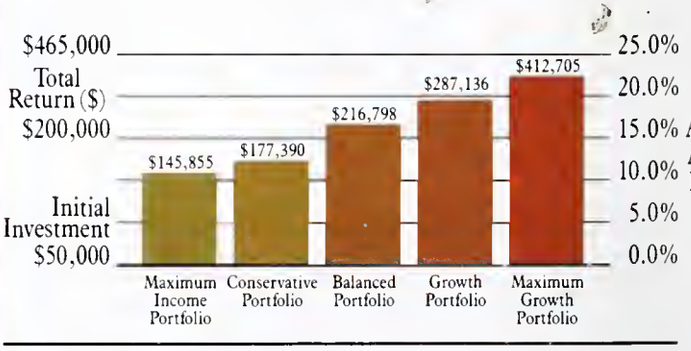
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